

CATALOGUE

OF THE

OHIO STATE UNIVERSITY

FOR 1892 - 93.

CATALOGUE

OF THE

OHIO STATE UNIVERSITY

FOR

1892-1893.



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Calendar for 1893-94.

• 1893 •

JANUARY

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ANNOUNCEMENTS FOR 1893-94.

1893

Second Term begins.....	Wednesday,	January 4.
University Day.....	Wednesday,	February 22.
Second Term ends.....	Friday,	March 24.
Third Term begins.....	Monday,	March 27.
Senior Vacation begins.....	Saturday,	May 20.
Baccalaureate Sermon.....	Sunday	June 11.
Entrance Examinations, 9 a. m.....	{ Monday, Tuesday,	June 12, 13.
Exercises of the Literary Societies.....	Monday,	June 12.
Class Day.....	Tuesday,	June 13.
COMMENCEMENT.....	Wednesday,	June 14.
Entrance Examinations, 9 a. m.	{ Monday, Tuesday,	September 11, 12
First Term begins: Registration Day.....	Wednesday,	September 13.
Thanksgiving Recess.....	{ Thursday, Friday,	November 30. December 1.
First Term ends.....	Wednesday,	December 20.

1894.

Second Term begins	Wednesday,	January 3.
Second Term ends.....	Friday,	March 23.
Third Term begins	Monday,	March 26.
COMMENCEMENT.....	Wednesday,	June 13.

Board of Trustees.

		Term Expires
*JOHN T. MACK.....	Sandusky.....	May 13, 1894.
LUCIUS B. WING.....	Newark.....	" 1895.
THOMAS J. GODFREY	Celina.....	" 1896.
JOHN B. SCHUELLER.....	Columbus.....	" 1897.
ROSS J. ALEXANDER.....	Bridgeport.....	" 1898.
WM. L. CHAMBERLAIN	Hudson.....	" 1899.
DAVID M. MASSIE.....	Chillicothe.....	" 1900.

OFFICERS OF THE BOARD.

JOHN B. SCHUELLER.....	<i>President.</i>
DAVID M. MASSIE.....	<i>Vice President.</i>
ALEXIS COPE.....	<i>Secretary.</i>
FRED W. PRENTISS.....	<i>Treasurer.</i>

COMMITTEES OF THE BOARD.

EXECUTIVE.

L. B. WING,
J. B. SCHUELLER,
T. J. GODFREY,

FARM.

WM. L. CHAMBERLAIN,
L. B. WING,
JOHN T. MACK,

FINANCE

T. J. GODFREY,
D. M. MASSIE,
R. J. ALEXANDER.

*Appointed to the vacancy caused by the death of President Rutherford B. Hayes.

Members of the Faculties.

INSTRUCTORS AND OFFICERS.

WILLIAM H. SCOTT, M. A., LL. D., PRESIDENT, and Professor of Philosophy.	University Grounds.
EDWARD ORTON, PH. D., LL. D., Professor of Geology.	100 Twentieth Street.
SIDNEY A. NORTON, PH. D., LL. D., Professor of General and Applied Chemistry.	363 East Town Street.
NORTON S. TOWNSHEND, M. D., Professor <i>Emeritus</i> of Agriculture.	University Grounds.
STILLMAN W. ROBINSON, C. E., Professor of Mechanical Engineering.	1353 Highland Street.
NATHANIEL W. LORD, E. M., Professor of Mining and Metallurgy.	1175 Highland Street.
*SAMUEL C. DERBY, M. A., Professor of the Latin Language and Literature.	93 Fifteenth Avenue.
WILLIAM R. LAZENBY, M. AGR., Professor of Horticulture, and Superintendent of Grounds.	University Grounds.
JOSIAH R. SMITH, M. A., Professor of the Greek Language and Literature, and Librarian.	Fifteenth and Indianola Avenues.
HENRY A. WEBER, PH. D., Professor of Agricultural Chemistry.	1342 Forsyth Street.
BENJAMIN F. THOMAS, PH. D., Professor of Physics.	University Grounds.
GEORGE W. KNIGHT, PH. D., Professor of History and Political Science, and Secretary of the University Faculty.	University Grounds.
HENRY J. DETMERS, M. V. D., Professor of Veterinary Surgery.	35 King Avenue.
R. DANIEL BOHANNAN, B. SC., C. E., E. M., Professor of Mathematics and Astronomy.	Sixteenth and Indianola Avenues.
DAVID S. KELLICOTT, PH. D., Professor of Zoology and Entomology.	1332 Highland Street.
C. NEWTON BROWN, C. E., Professor of Civil Engineering.	1343 Forsyth Street.
ERNST A. EGGERS, Professor of the German Language and Literature.	644 Franklin Avenue.
ALBERT M. BLEILE, M. D., Professor of Anatomy and Physiology.	35 Clark Place.
EUGENE T. WILSON, 2d Lieut. 1st Artillery, U. S. A., Professor of Military Science and Tactics	281 East Broad Street.

*Absent on leave.

WILLIAM A KELLERMAN, PH. D., Professor of Botany and Forestry.	37 East Eighth Avenue.
THOMAS F. HUNT, M. Sc., Professor of Agriculture.	188 Tenth Avenue.
GEORGE B. KAUFFMAN, B. Sc., Associate Professor of Pharmacy.	60 Garfield Avenue.
REV. JAMES CHALMERS, PH. D. LL. D., Associate Professor of English Literature.	1330 Forsyth Street.
BENJAMIN L. BOWEN, PH. D., Associate Professor of the Romance Languages and Literatures.	208 East State Street.
JOSEPH V. DENNEY, B. A., Associate Professor of Rhetoric.	Sixteenth and Indianola Avenues.
ARTHUR L. WILLISTON, M. E., Director of Manual Training and Mechanic Arts.	
MARSHALL J. WILLIAMS, DEAN of the Law School, and Lecturer on Pleading and Practice.	910 East Broad Street.
GEORGE K. NASH, B. A., Torts.	43 Jefferson Avenue.
DAVID F. PUGH, Equity Jurisprudence.	1320 Highland Street.
I. N. ABERNETHY, Mortgages and Liens.	Circleville.
DAVID K. WATSON, B. A., LL. B., The State Constitution.	685 East Town Street.
JAMES H. COLLINS, Appellate Jurisdiction and Federal Practice and Private Corporations.	57 Lexington Avenue.
ORLANDO W. ALDRICH, LL. D., D. C. L., Real Property and Office Practice.	101 North High Street.
M. G. EVANS, Bills and Notes and Commercial Law.	391 East Town Street.
J. PAUL JONES, B. A., Municipal Corporations, Wills and Administration and Common Pleas Practice.	1194 East Town Street.
WILLIAM F. HUNTER, Sales, Bailments, and Interpretation and Construction of Contracts and Statutes.	757 Franklin Avenue.
S. C. JONES, LL. B., Agency, Partnership, Criminal Law and Probate Practice.	57 East Eighth Avenue.
JACOB A. MCEWEN, LL. B., Insurance Law.	Normandie Building.
E. O. RANDALL, B. PH., LL. M., Contracts.	1025 Oak Street.
EDWARD N. HUGGINS, LL. B., Evidence.	Normandie Building.
HORACE L. WILGUS, M. Sc., Elementary Law, Domestic Relations and Secretary of the Faculty of the Law School	81 West Frambes Avenue.
J. H. DYER, LL. B., Judge of Moot Courts.	37 Butler Block.
GEORGE W. MCCOARD, M. A., Assistant Professor of Mathematics.	11 Butt's Avenue.
FREDERICK W. SPERR, F. M., Assistant Professor of Mining Engineering.	1461 Worthington Street.
JOSEPH N. BRADFORD, M. E., Assistant Professor of Drawing.	61 West Eighth Avenue.
REV. GEORGE P. COLER, B. A., Assistant Professor of Philosophy.	Sixteenth and Indianola Avenues.

WILLIAM N. GLADSEN, B. M. E.	1352 Hunter Street.
Assistant Professor Electrical Engineering.	
OLIVE B. JONES,	Fifteenth and Indianola Avenue.
Assistant Librarian.	
CHARLES W. MESLOH, B. A.,	69 East Fifth Avenue.
Assistant in German.	
JOSEPH R. TAYLOR, B. A.,	72 West Third Avenue.
Assistant in Drawing.	
ALVIN D. HAINES,	234 Tenth Avenue.
Assistant in Mechanical Laboratory.	
CHARLES L. ARNOLD, B. Sc.	1627 North High Street.
Assistant in Mathematics.	
CHARLES B. MORREY, B. A.,	146 King Avenue.
Assistant in Physiology.	
CLAIR A. DYE, G. PH.,	135 King Avenue.
Assistant in General Chemistry.	
LLOYD M. BLOOMFIELD, B. AGR.,	186 West Ninth Avenue.
Assistant in Agricultural Chemistry.	
WILLIAM C. WERNER,	University Grounds.
Assistant in Botany.	
FRANK J. COMBS,	1173 Franklin Avenue.
Assistant in Mechanical Laboratory.	
EDWARD A. KEMMLER, C. E.,	895 South High Street.
Assistant in Civil Engineering.	
WILBUR H. SIEBERT, M. A.	299 South Front Street.
Assistant in History and Political Science.	
HENRY C. LORD, B. Sc.,	1492 North High Street.
Assistant in Mathematics and Astronomy.	
JAMES E. BOYD, B. Sc.,	152 West Eighth Avenue.
Assistant in Physics.	
HARVEY A. SURFACE, M. Sc.,	1596½ North High Street.
Assistant in Geology.	
WILLIAM MCPHERSON, JR., M. Sc.,	38 West Eighth Avenue.
Assistant in Chemistry.	
WALLACE S. ELLEN, M. A.,	Sixteenth and Indianola Avenue.
Assistant in French and Latin.	
PAUL FISHER, B. AGR., D. V. M	525 East Main Street.
Assistant in Veterinary Medicine.	
VERNON J. EMERY, M. A.,	38 West Eighth Avenue.
Assistant in Latin.	
EMBURY A. HITCHCOCK, M. E.,	200 West Ninth Avenue.
Assistant in Mechanical Engineering.	

STATE GEOLOGIST,

PROFESSOR EDWARD ORTON.

STATE SEALER OF WEIGHTS AND MEASURES,

THE PROFESSOR OF PHYSICS, *Ex-Officio*.

Ohio State University.

THE UNIVERSITY AND THE STATE.

Under an act of Congress passed July 2, 1862, the State of Ohio received from the United States a large grant of the public lands for the purpose of establishing a "college, where the leading objects shall be without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such a manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." In accordance with this act, the Ohio State University was founded by the State as a public institution of learning. The governing body of the institution is a Board of Trustees, appointed by the Governor of the State for terms of seven years, as provided in the law organizing the University. The original endowment has been supplemented, and the objects of the University promoted by a permanent annual grant from the United States, under an act of 1890; by special appropriations of the General Assembly; and lastly, in 1891, by a permanent annual grant from the State. In accordance with the spirit of the law under which it is organized, the University aims to furnish ample facilities for liberal education in the arts and sciences, and for thorough technical and professional study of agriculture, engineering in its various departments, veterinary medicine, pharmacy and law. Through the aid which has been received from the United States and from the State, it is enabled to offer its privileges, with a slight charge for incidental expenses, to all persons, of either sex, who are qualified for admission.

ORGANIZATION OF THE UNIVERSITY.

The University comprises the Collegiate Department, the Law School, and a Preparatory Department.

The Collegiate Department embraces the following Schools: Arts and Philosophy, Science, Agriculture, Engineering, Pharmacy, and Veterinary Medicine. Each school is under the direction of a standing committee of the Faculty, having power to act in all matters pertaining to the work of students in the school, in the transfer of students from one school to another, and in matters of minor discipline.

LOCATION AND MATERIAL EQUIPMENT OF THE UNIVERSITY.

The University is situated within the corporate limits of the city of Columbus, two miles north of the Union Depot and about three miles from the State Capitol. The University grounds consist of three hundred and thirty acres, bounded east and west by High street and the Olentangy river, respectively. The western portion, of about two hundred acres, is devoted to agricultural and horticultural purposes, and is now under the management of the Agricultural Department of the University. The eastern portion is occupied by the principal University buildings, campus, athletic and drill grounds, a park-like meadow, and a few acres of primitive forest.

The grounds are laid out with care, are ornamented with trees, shrubs, and flower beds, and are so managed as to illustrate the instruction in botany, horticulture, landscape gardening, and floriculture.

The University may be reached by either the North High street or Neil avenue electric cars. Those wishing to go to the principal buildings of the University or to the residences on the grounds, should take a High street car going north. Those wishing to visit the Veterinary Hospital, Agricultural Buildings, or Dormitories will find the Neil avenue cars more convenient.

BUILDINGS.

UNIVERSITY HALL is the principal, and was for some years the only building, devoted to instruction. It is built of brick with stone trimmings. It is four stories high, exclusive of basement, two hundred and thirty-five feet long, and the central portion is one hundred and nine feet wide. This building contains the President's office, the assembly room, the geological and zoological museums, library, three halls for literary societies, besides class-rooms and laboratories for the Departments of Agriculture, Civil Engineering, English, French, German, Greek, Geology, History and Political Science, Latin, Mathematics, Philosophy, Physics, Physiology and Zoology.

THE MECHANICAL BUILDING was erected in 1878. The material is brick, and the dimensions seventy-seven feet front and thirty-two feet in depth, with a wing sixty-one feet in length and thirty-two feet in depth. It contains a room for wood-work, a forge room, a foundry, a machine room, a room fitted up with cases for the care of models, instruments of precision, etc., and a room for instruction in theoretical mechanics and draughting. The cost of the building and its original equipment was about ten thousand dollars; but repeated and valuable additions have since been made to the outfit.

THE BOTANICAL BUILDING was provided for in 1883 by a State appropriation of fifteen thousand dollars. It is constructed of brick, and is fifty feet long by forty feet wide, with an attachment in the rear which is twenty-five feet square. The whole is two stories in height. The main room on the first floor is the lecture room and laboratory of the Departments of Botany and Horticulture. On the second floor is the museum of these Departments. There are also an office, a seed room, a store room, a private laboratory, etc. Connected with this building is a greenhouse containing two compartments, each of which is twenty-five feet wide, one being thirty and the other forty feet in length. A plain, but serviceable propagating house stands near, in which large numbers of plants are reared for the lawn and for the purpose of instruction.

THE ELECTRICAL LABORATORY was built in 1889. It is a two story brick building about seventy-five feet long and forty-five feet wide. Sixty feet of the first story forms the engine and dynamo room. The floor of this room is of asphalt, laid on a solid concrete foundation. On the second floor are a lecture room, thirty by forty feet, a photometric room, a library room, and three measurement rooms. The building and its outfit are valued at about sixteen thousand dollars, of which ten thousand was appropriated by the General Assembly, and the remainder was presented by various electric companies.

THE CHEMICAL BUILDING was completed during the summer of 1890, and is now occupied by the Departments of General Chemistry, Agricultural Chemistry, Mining and Metallurgy, and Pharmacy. The building and contents have cost about sixty-two thousand dollars, which was appropriated by the State. It stands three hundred and twenty-five feet east of University Hall, and, like that, fronts the south. It is two stories in height, with a basement of about eleven feet. Its greatest length is one hundred and seventy-nine feet, and its depth, between the extreme

points, one hundred and thirty-two feet. The depth of the main portion, exclusive of the wings, varies from sixty-three to more than seventy feet. It is built of pressed brick laid in red mortar. At the entrance is a large loggia, and beyond this a vestibule opening into the main hall.

The Department of General Chemistry occupies the middle and western portions of the second floor. The main lecture room is thirty-seven by forty-two feet, and contains seating capacity for one hundred and fifty persons. The qualitative laboratory is about forty by fifty-eight feet, and contains desks for forty students. The quantitative laboratory contains desks for eighteen students. Besides these, there is a second lecture room accommodating forty persons, a room for the preparation of experiments, a balcony accessible both from the lecture room and the preparation room, two store rooms for supplies, a balance room, a room for working with foul gases, one for distilling water, one for spectroscopic work, one for rough work, one for books, a private laboratory, and an office.

The Department of Agricultural Chemistry occupies the middle portion of the first story, and the basement, and has a lecture room with seats for sixty students, a preparation room, a laboratory with desks for fifty-four students, a laboratory for organic analysis, a store room, a balance room, and a private laboratory.

The Department of Mining and Metallurgy occupies the eastern part of the building. In the basement are the smelting furnaces, the assay laboratory, a room for rough work, and store rooms for supplies. On the first floor is the lecture room of the professor in charge, twenty-five by twenty-six feet, with a seating capacity of forty, a laboratory with desks for sixteen students, a store room, a balance room, a private laboratory, and an office. On the second floor is the lecture room of the assistant professor, a draughting room, a room for instruments, and an office.

The Department of Pharmacy occupies the first floor and basement in the western end of the building, and has a lecture room twenty-two feet by thirty-six, providing for sixty students, a preparation room, a laboratory with desks for twenty-five students, a room for supplies, a balance room, a model drug store, and a private laboratory.

ORTON HALL. This building, now in process of construction and rapidly nearing completion, is designed for the permanent accommodation of the large geological collection of the University, and for work and instruction in the Department of Geology. A portion of it will be occupied by the library and reading room. The main front of the structure is about one hundred and fifty feet in length, and the extreme depth about one hundred and thirty. The building is two stories in height, with a high basement, is built of brick and faced with sandstone, and will be fire-proof throughout.

At the right of the main entrance will be the geological lecture room, professor's private room, and assistant's lecture room. At the left, the library and reading room, and librarian's private room. The central and rear portion will be occupied by the geological, economic, and paleontological museums. A geographical modeling room and a lithological laboratory are also provided for, as well as seminary rooms in connection with the library.

HAYES HALL. This large building, to be devoted to instruction and work in manual training, is now completed. The walls are built of pressed brick with trimmings of brown stone. The entire length of the building is one hundred and sixty-eight feet, and the depth one hundred and forty-six feet. The central portion is three stories high and the wings each two stories high. On the first floor is a reception room, an office, a reading room, two recitation rooms, rooms for instruction in cooking, a shop for iron work, a forge room, and a foundry. The second floor contains a mechanical museum, recitation rooms, private rooms, a room for instruction in sewing, and a shop for wood-work. The third story is used for instruction in drawing, modeling, wood-carving, and photography.

THE VETERINARY HOSPITAL contains on the first floor, a veterinary museum and library, a dispensary, and two private rooms for the persons in charge. On the second floor are a class room, a bacteriological laboratory, and a microscopical laboratory. The rear extension contains an operating hall thirty by thirty-three feet in size, and a room provided with stalls, cages, etc., for the care of animals under treatment.

THE NORTH DORMITORY is situated at the northern limit of Neil avenue, and fronts Eleventh avenue. It is at the terminus of the Neil avenue electric railroad. It is a plain structure of brick, and affords accommodation for sixty-four students.

THE SOUTH DORMITORY stands near Neil avenue within a few rods of the North Dormitory. It is also built of brick, and contains rooms for twenty students.

THE buildings recently occupied by the Ohio Agricultural Experiment Station are now appropriated to the accommodation of the Departments of Agriculture and Horticulture. The main building is a handsome brick structure, fronting the campus from the west. An extensive greenhouse is attached. A frame building is used as a store room for seeds and implements. There are also a frame residence, a barn for horses, and another for the dairy, and several small buildings.

RESIDENCES. There are six dwelling houses upon the University campus. Four of these are brick and two are frame structures. One is occupied by the President of the University, three by professors, and another is leased to one of the fraternities for a chapter house.

LAW SCHOOL. The regular work of the Law School is not carried on in the University buildings, but for the present, through the kindness of the Commissioners of Franklin county, the lectures and recitations of the school are conducted in the Franklin county court house on South High street.

LABORATORIES AND EQUIPMENT.

AGRICULTURE.

The equipment of this Department may be divided along three general lines; the plant, the museum, and the illustrative materials.

THE PLANT. This consists of a farm of about 200 acres, a general farm barn, a horse barn and several smaller buildings. The farm lies along the Olentangy river, and consists of both first and second bottom land. On this farm are grown general farm crops in the rotation deemed best suited to the circumstances of the Department. At present, a few experiments are conducted, the general idea being to conduct such experiments as will have the largest instructional value to the students who attend the School of Agriculture. The Ohio Agricultural Experiment Station, recently removed to Wooster, continues to conduct here the elaborate fertilizer experiments with wheat, corn and oats, which it has been making on this farm during the past four years. Different species and varieties of farm crops are grown to some extent for the purpose of class illustration and instruction and it is expected considerably to enlarge this feature.

Specimens of the draft, coach and roadster type of horses are kept and used in the farm work. The Department manages a milk dairy, having a herd of about 40 cows composed of pure-bred and grade Jerseys and Shorthorns.

The general farm barn contains a well-arranged stable for 40 cows; with underground drainage and sewage cistern, a milk cooling room, a silo, a root cellar, a work shop, with room for hay, grain and other food stuffs.

THE MUSEUM. This contains a large number of samples of farm products in various forms and their by-products; such as soils, grains, grasses, wools, cotton, forage plants and food stuffs. Milling and other processes are illustrated by samples of the various products of manufacture.

The museum contains Auzoux models, samples of tools and a considerable miscellaneous collection. These collections are intended primarily for student use and not for display.

ILLUSTRATIVE MATERIALS. These consist of charts, pictures and lantern slides, showing results of experiments, representative and noted specimens of live stock, farm machinery, fences, buildings, etc. The Department has and uses constantly in the class room, a Beseler double oxygen-ether stereopticon. The collection of several hundred lantern slides for this purpose is constantly receiving additions.

THE AGRICULTURAL LIBRARY. While not considered as belonging specifically to this Department, there is in the general library a fairly good collection of books and periodicals devoted to agriculture, a large use of which is required of the student.

BOTANY.

The general Botanical Laboratory occupies a part of the second floor of the Botanical Building. It is 23x33 feet and is furnished with both movable and fixed tables. The latter are attached to the west and south walls near windows suitably shaded. Water, gas, and an evaporating hood are also provided. The laboratory is well equipped with compound microscopes of the Bausch and Lomb and of the Leitz patterns, and accompanying each is a tray of tools and a case of reagents. There are more than thirty dissecting microscopes; also charts, and several minor pieces of apparatus for experiments in vegetable physiology. Three smaller rooms are also provided as laboratories for special work, as well as a dark room for photography. Other facilities for the illustration of the courses in botany, and for practical training in the same, are: a general herbarium including flowering plants, ferns, mosses, fungi and algae; a collection of fruits and seeds, valuable timbers, woods, grasses, and various economic products of the vegetable kingdom; ornamental grounds and woodland, planted with a large variety of evergreen and deciduous trees and shrubs; and a greenhouse with a fair collection of native and exotic plants. See also **MUSEUMS**—*The Botanical Museum*, and **BUILDINGS**—*The Botanical Building*.

CHEMISTRY.

The laboratories of the Department accommodate sixty students. The general lecture room is large and well lighted, and all needed facilities are provided for the full experimental illustration of the lecture courses. The department is generously supplied with the best apparatus and materials for both lecture and laboratory work, and has also a growing collection of specimens illustrating the application of chemistry to the arts. See also **BUILDINGS**—*The Chemical Building*.

CIVIL ENGINEERING.

The facilities provided for the illustration of the courses in civil engineering and for practical training are as follows: One high grade and three ordinary transits, three leveling instruments, solar compass, prismatic compass, improved telescope compass, Abney hand level, level and stadia rods, sight poles, chains, tapes, etc; twenty improved drawing tables with 30" by 36" top; Schroeder's models in stereotomy and roof trusses; large set of models of wooden joints; collection of photographs of bridges, both when finished and in course of erection; collections of strain sheets and shop drawings of bridges; new improved cement testing machine and outfit for making all kinds of cement test; stone mason's tools for working models out of plaster blocks; magic lantern and slides; calculating machines; sets of drawing instruments; blue-print room with outfit; set of tracings of standard structures from which each student in course 5 makes a set of blue-prints. The equipment is growing each year by the addition of material purchased, presented or made by students of the Department.

DRAWING.

The Department occupies the entire third floor of Hayes Hall and is provided with the following equipment for the illustration of the work in drawing and for practical training in the same. For freehand drawing: flat and shaded copies in pencil and charcoal; wooden models of geometric forms; plaster casts of ornaments, flowers, fruit and the antique; easels and drawing tables for pen and ink drawing and for water-color and oil painting; a well selected line of work from artists of recognized ability. For mechanical drawing: O. S. U. improved drawing tables (30"x 36" tops), a set of the celebrated Schroeder models, a collection of shop drawings and facilities for blue printing. For photography: a well arranged and equipped dark-room, printing outfits, copying camera, four view cameras, lenses of long and short focus, flash lamp and a shutter for instantaneous photography. In addition to the above, the library contains a well chosen collection of books pertaining to the work of the Department. See also BUILDINGS—*Hayes Hall*.

GEOLOGY.

The University is able to present unusual advantages for the study of geology. By an act of the legislature it has been put in possession of all the collections made by the late geological survey, and these collections have been supplemented by valuable additions of fossils and minerals from various sources. The state collection embraces a very complete representation of every geological formation shown in Ohio. See also MUSEUM—*The Geological Museum*, and BUILDINGS—*Orton Hall*.

HORTICULTURE.

Among the facilities provided for the illustration of the courses in horticulture, and for practical training in the same, are: (1) a collection of horticultural tools for budding, grafting, pruning, etc.; (2) an orchard, containing well selected varieties of the apple, pear, cherry, plum and quince; (3) a small vineyard, containing numerous varieties of the grape; (4) a garden of small fruits, containing all the best varieties of the strawberry, raspberry, blackberry, currant and gooseberry; (5) a vegetable garden with forcing houses, cold frames, experimental plats, conveniences for irrigation, etc.; (6) small nursery and forest tree plantations, with practice rows for budding, grafting, pruning and training; (7) ornamental grounds and woodland, planted with a large variety of evergreen and deciduous trees and shrubs; (8) a greenhouse, with a fair collection of native and exotic plants; (9) a collection of preserved natural specimens, and models of fruits, seeds, woods, etc.; (10) a laboratory fairly well equipped with microscopes, balances, charts, and other appliances for study and research. See also MUSEUMS—*The Botanical Museum*.

MECHANICAL ENGINEERING.

The greater portion of the Mechanical Building is devoted to laboratory purposes, only one of the six rooms being used exclusively for lectures and recitations.

The laboratory embraces machines and other tools for ironwork, woodwork, smithwork and founding, as well as appliances for experimental testing of the resistance of materials; dynamometric measurement of power; lubricant testing; experiments in the flow of fluids and movement of air by power blowers; engine testing; pressure gauge testing and standardizing; calibration of steam and measuring machines, standard and power grinding machinery for fine machine construction.

One room is equipped with hand-tools, work-benches, tool-cases and material for woodwork; another, with a cupola for melting iron, a brass furnace, a moulding floor with sand, flasks, ladles, etc., where castings are made and used in the labora-

tory practice; another room is equipped for forging with anvils, power-blast, forges, etc.; another, for ironwork, with tools, machinery, engine and hand lathes, shaper, drill press, milling and grinding machines, etc., etc.; another room contains a Thurston oil tester, a Riehle testing machine, a dynamometer, a Westinghouse compressed air apparatus, a Leffel turbine, a cabinet of models, a collection of standard plugs and rings, snap and screw gauges, mandrel reamers, measuring machines, twist drills, screw tools, and samples of manufactured articles.

The engine furnishing power to the Mechanical Building is fitted up for indicator work, as also are the engine in the Electrical Building, and the ventilating engine in the Chemical Building. In the boiler house are a Babcock and Wilcox boiler of 200-horse power, and a tubular boiler of 30-horse power, either of which serves for experiments on boilers.

The mechanical laboratory virtually embraces much more than this, as a number of boilers, engines, blowers, steam and gas transmission pipes in tunnels for service with the various buildings of the institution, fitted with attachments for conducting experimental tests.

Trips are made also to the manufacturing establishments of the city, where numerous steam and other plants are available for expert testing. See also BUILDINGS—*The Mechanical Building*.

METALLURGY AND MINING ENGINEERING.

The draughting room is large, well lighted and provided with a desk for each student. A work shop in the attic is fitted with tools for making models, and for experiments in ventilation. The metallurgical laboratory has all the appliances for the most modern methods of technical analysis as practiced in iron and steel laboratories, including gas analysis. A furnace room in the basement is fitted for gold and silver assaying, with improved muffle and crucible furnaces.

The lecture room in metallurgy has arrangements for projecting photographs of machines, mines and furnaces for class illustrations, and there is a large collection of such views. There is a photographic room with blue-printing facilities in the attic, where students can learn to make copies of the drawings used in illustrating the lectures.

A collection of minerals and rocks with a large set of rock sections is provided for illustrating the mineralogy, as well as sets of blow-pipe apparatus for the students in determinative mineralogy. See also BUILDINGS—*The Chemical Building*; and MUSEUMS—*The Geological Museum*.

PHARMACY.

The facilities provided for illustration of this work and for practical training are as follows: The apartments assigned to this work occupy the west end of the Chemical Building, first floor and basement. The lecture room will accommodate sixty students, and is provided with a large lecture table and supplied with gas and water, and other conveniences for experiment. About the walls are arranged cases in which are exhibited elegant and costly chemicals, rare and curious drugs, elegant pharmaceuticals and so on. Adjoining this room is the preparation room and store room, where the supplies and apparatus and material are kept, and where the apparatus for experiment and illustration before classes is prepared. Also adjoining this room is the professor's private laboratory. The main laboratory has desks for thirty students, each one provided with gas and water, and sufficient storage space for material and apparatus. The laboratory is furnished with apparatus for distilling and reclaiming, with mills, balances, drying closets, steam vaporizers, hoods and other special apparatus for pharmaceutical work. Opening into the laboratory is the drug store. This drug store is complete, and is in itself a cabinet of officinal drugs, and all preparations thereof. It is provided with a prescription desk and all apparatus

adapted for training in prescription work. Here, also, is a large reading table, where are kept the various pharmaceutical journals, the dispensaries, and many books of reference. Also adjoining the main laboratory is the balance room, which is well provided with analytical balances, specific gravity balances and microscope, all of which are intended for higher pharmaceutical work.

In the balance room is also a cabinet of crude drugs, which have been classified and numbered, but bear no name. This cabinet is adapted for the study of pharmacognosy.

In addition to the foregoing equipment, the Department is possessed of an extensive range of apparatus, by means of which any branch of work in pharmacy can be successfully pursued. The department is complete in all its details, and affords unexcelled opportunity for the study of pharmacy. See also BUILDINGS—*The Chemical Building*.

PHYSICS AND ELECTRICAL ENGINEERING.

The Department has an excellent equipment of apparatus, to which additions are constantly being made. The apparatus includes a large collection of pieces for illustration of the general lecture room work, but is principally chosen for accurate measurement in the laboratory. A set of standards of length, capacity and mass, sent under the act of Congress supplying such sets to the several agricultural colleges, is in the possession of the Department. The pieces are copies of the United States standards, made by the Coast Survey at Washington.

Among the principal pieces of apparatus are a dividing machine by Fauth & Co.; chronometers by Parkinson & Frodsham, and by Negus, the latter a break circuit; a chronograph by Fauth & Co.; a Hipp's chronoscope; cathetometers by Salleron and by the Geneva Society, the latter an exceptionally fine instrument; Regnault's apparatus for vapor tension, for expansion of gases, and for specific heat; Melloni-Tyndall apparatus for radiant heat; standard thermometers by Baudin and others; Rutherford & Rowland diffraction gratings; Rowland's spectrum photographs; spectroscopes by Browning, Apps and others; Salleron's complete apparatus for projections in polarized light; lanterns for projections by the lime light and the arc light; a variety of sound apparatus from Koenig; portable and quadrant electrometers; Thomson galvanometers of high and low resistance; Thomson current and potential galvanometers; Weidemann, Kohlrausch and other galvanometers; standard resistance coils, with Cavendish laboratory certificate; several sets of resistance coils and bridges; a Kew magnetometer; a gas engine; and the state photometric apparatus.

The Electrical Laboratory affords excellent facilities for experimental and practical work with dynamo machinery. Machines of the leading makers are provided for incandescent lighting by continuous and by alternating currents, aggregating a capacity of about eight hundred sixteen-candle power lamps. Machines for arc lighting, constant potential and constant current motors, Lord Kelvin's electric balances for standardizing galvanometers, Siemens's electro-dynamometers Weston and other ammeters, Cardew and Weston, voltmeters Deprez and D'Arsonval galvanometers, photometers, steam engine indicators, Prony brakes are provided, and enable students to carry out a wide range of experimental work.

To this may be added, as a part of the facilities afforded students, the valuable opportunities given by the electric companies of Columbus. The Columbus Electric Light and Power Co., using the Thomson-Houston system for arc and incandescent lighting and the Brush motors, and the Columbus Edison Company, using the Edison system of lighting, generously allow us not only to inspect their works, but also to experiment freely with their machinery and circuits. See also BUILDINGS.—*Electrical Laboratory*.

PHYSIOLOGY.

The facilities provided for instruction and study of anatomy and physiology are excellent. The laboratory is supplied with skeletons, papier-maché manikin, and models of eye, ear, larynx, etc., also with apparatus, including myographs, spectroscope, microscopes, chemical outfit, etc.

For work in histology the equipment includes twenty-four tables, each supplied with a good microscope, and all needed appliances. The laboratory also has excellent microtomes, imbedding baths and other essentials of a histological outfit.

VETERINARY MEDICINE.

The hospital affords excellent facilities for the care of patients, and for the study and treatment of their ailments. It contains three stalls, a loose box, and a large operating hall.

The front part of the building contains a lecture room, a library, an anatomical and pathological museum, a bacteriological laboratory, a room for microscopy and photomicrography, a dark room, a dispensary, and an office. The museum contains two skeletons of the horse, one of a cow, one of a camel, and one of an ostrich, all prepared by students. The skeletons of the lion and of the tapir are being prepared. The museum has also a growing collection of pathological preparations. The library contains a choice collection of books, and the leading periodicals in veterinary science.

The equipment of the Department, for surgical work, is unsurpassed. It includes sets of instruments of the latest and most approved patterns, and by the best makers. The collection of microscopes is very fine, including instruments of the highest grade by Tolles, Spencer, Bausch and Lomb, and Zentmayer, with all needed accessories.

Better facilities and more means of instruction are constantly added. The bacteriological laboratory, in particular, has recently been supplied with apparatus of the most modern and approved construction. See also BUILDINGS—*The Veterinary Hospital*.

ZOOLOGY AND ENTOMOLOGY.

The outfit of the Department is ample, consisting of general zoological collections, an entomological collection, a series of skeletons, alcoholic specimens, and all needed instruments. See also MUSEUMS—*The Zoological Museum*.

THE LIBRARY.

The Library contains about 12,000 volumes, exclusive of pamphlets. Several special collections of books, which are incorporated in it, add to its interest and value.

THE SULLIVANT COLLECTION. A considerable portion of the technical library of the eminent botanist, William S. Sullivan, was presented by himself and family, in 1873 and succeeding years. The most costly and extensive work in this collection is the *Flora Brasiliensis*, in 112 folio volumes.

THE DESHLER COLLECTION. A considerable number of rare and valuable works on entomology, especially on the Coleoptera, which had been gathered by Mr. Tudor Fay, were presented to the Library in 1873, by the late John G. Deshler, Esq.

THE GERMAN LIBRARY, of about 400 volumes of German literature, was given to the University in 1889 by several gentlemen, residents of Columbus, most of them of German extraction. It constitutes an important addition to the equipment of the German Department and the resources of the Library.

THE SHAKSPEARE ALCOVE. Several members of the class of 1887 have raised a memorial fund, to provide the nucleus of an alcove of Shakspeariana. From this fund there have thus far been purchased the following works; The Variorum Shakspeare (H. H. Furness) so far as issued, consisting of 9 volumes; The Papers of the Old Shakspeare Society, 47 vols.; the fac simile of the first folio edition of 1623; *Jahrbucher der Deutschen Shakspeare-Gesellschaft*, 25 vols.; Shakspeare in Germany in the 16th and 17th Centuries (Albert Cohn).

The Library is of recent formation; and being designed especially for the use of the several Departments of instruction in the University, in all purchases their most urgent needs have been constantly kept in mind, and none but books of recent issue or older works of permanent value selected. The collection, therefore, includes little that is obsolete, curious, or merely entertaining. Annual additions are made to all the Departments represented in the Library. About ninety periodicals are regularly received, and the Library has complete sets of the following:

American Journal of Science,	Nord and Süd,
Nature,	Unsere Zeit,
Science,	North American Review,
Popular Science Monthly,	Edinburg Review,
Transactions of American Institute of	Quarterly Review,
Mining Engineers,	Nineteenth Century,
Transactions of American Society of	Contemporary Review,
Civil Engineers,	Littell's Living Age,
Transactions of American Society of	Journal of Royal Statistical Society,
Mechanical Engineers,	Quarterly Journal of Economics,
Journal of Society of Telegraph Engi-	Form,
neers,	Political Science Quarterly,
Chemical News,	English Historical Review,
Chemisches Central-Blatt,	Public Opinion,
Jahres Bericht d. Agricultur-Chemie,	Atlantic Monthly,
Landwirthschaftliche Versuchsstationen,	American Journal of Philology,
Geological Magazine,	American Journal of Psychology,
Rundschau,	Mind.

The management of the Library is vested in a body known as the Library Council, which consists of six members, as follows: The President of the University and the Librarian, *ex-officiis*, and four professors elected by the Faculty for a term of two years each.

The Library is at present located in convenient rooms on the third floor of University Hall. As soon as the new Orton Hall, now in process of erection, is completed, the Library will be removed to that building, and placed in commodious rooms specially designed and arranged for its accommodation.

During the college year the Library is open every week-day from 8:30 A. M. to 4:30 P. M., except on Saturday, when it is open only from 8:30 to 11:30 A. M.

The catalogue is the usual card catalogue of authors and subjects.

The Library is a circulating one for both officers and students; graduate and senior under-graduate students are usually admitted to the alcoves. In the reading-room all students have free access to an unusually large collection of works of reference in the various Departments of study. This collection includes all the standard cyclopædias, dictionaries, and gazetteers, and many minor works of special reference value, all of which are constantly consulted by students.

The State Library, in the State House, containing about sixty-two thousand volumes, is accessible to students and forms a valuable auxiliary to the University.

The Public Library and the Public School Library of Columbus may also be used by students.

For students in the Law School the State Law Library, in the State House, is of the greatest value. It is the largest and most complete law library in the State, and

consists of about fifteen thousand volumes. It contains complete sets of the English, Scotch, Irish, Canadian, United States and State reports, statutes and digests, and the important legal text books and periodicals. The private law library of the late Henry C. Noble, of Columbus, consisting of about 1000 volumes, has been presented by Mrs. Noble to the Law School, and is directly accessible to students in law.

THE MUSEUMS.

THE GEOLOGICAL MUSEUM of the University has been collected and arranged with reference to instruction rather than display. The basis of it is a large and comprehensive collection of the rocks, fossils and economic minerals of Ohio. The collection embraces the following named series:

(a.) An excellent representation of the leading divisions of the geological scale of the State, so far as it can be illustrated by rock specimens. The specimens represent the leading phases of each formation, and in many cases carry the characteristic fossils of the horizons from which they are derived.

(b.) A collection of the animal and vegetable fossils of the rocks of Ohio. This series includes a large majority of the described fossils of our formations, and in the number are many type specimens. While all the ages of our geological history are well represented, the collection of the Upper Silurian and Devonian animal fossils is particularly rich and complete. A remarkably fine series of coal plants is also included in the museum. The list of fossils has been greatly extended in the number of species and individuals by the recent purchase of the collection of Mr. Henry Moores, of Columbus.

(c.) The economic minerals of the State are also shown to excellent advantage in the museum. The coals, petroleums, iron ores, clays and building stones produced in Ohio are represented in large collections. Many of the specimens upon which chemical examinations or physical tests have been based in the work of the geological survey of the State are included here.

In addition to the Ohio collections above described, the museum contains a great deal of valuable material in the line of general geology and mineralogy. Among these additions may be named two large series of typical rock specimens from important centers, several valuable suites of ores, and many fine mineral specimens.

There also belong to the museum a number of geological models and maps. The former series includes a relief map of the State of Ohio, and also the models of the basins of the Atlantic ocean and the Caribbean sea, prepared under the supervision of the United States Coast and Geodetic Survey.

The catalogue of the museum contains more than 8,000 entries, but as only one number is as a rule given to a fossil or a mineral species, the individual specimens make an aggregate of many thousands in addition to the catalogue list, and probably double this list.

THE ZOOLOGICAL MUSEUM is located on the basement floor of the east wing of University Hall. The foundations of a zoological museum have been laid and work begun on a generous plan. Every effort is being made to secure and preserve excellent specimens in all groups of animals. Not only the adult animals are preserved, but the preparatory stages, their work and architecture; in fact, all that can illustrate their life-history and habits.

Among its features and recent additions may be mentioned the Wheaton collection of the birds of Ohio, numbering about 1,000 skins. These have been arranged in Harvard boxes, and may be consulted at any time by those interested.

About 3,500 species of molluscan shells have recently become the property of the museum. These will soon be displayed in suitable cases.

Among the mammals added are two fine specimens of moose, an animal fast disappearing from North America. Our reptiles, fishes and insects are being accu-

mulated as rapidly as possible. There is, besides, a good supply of skeletons, crania and alcoholic material for the laboratory courses in comparative anatomy, general zoology and entomology.

THE BOTANICAL MUSEUM occupies the second floor of the Botanical Building. It includes the university herbarium; also Professor Kellerman's private herbarium of over 17,000 specimens deposited for use by the Botanical Department; a representative collection of the native woods of Ohio, one part consisting of specimens six feet long by one foot wide, and one to two inches thick, one side being planed and polished; another portion, consisting of short sections of the stems or trunks of our native trees, both of temperate and sub-tropical climes; a collection of the seeds and fruit of weedy plants; a classified general collection of vegetable products, including seeds, textile fibers, coloring substances, etc., illustrating economic or applied botany.

THE MANUAL TRAINING SCHOOL.

The Board of Trustees, pursuant to the recent act of the General Assembly, is making liberal provision for a school of manual training. A new building for this branch of industrial education is now completed. The building will be furnished with the most improved equipment, and an extended and thorough course of instruction will be adopted.

MILITARY TRAINING.

Under the law of Congress establishing the University, it is required that instruction shall be given in military science and tactics. In accordance with this provision, an officer of the regular army has been detailed to take charge of the Department, and the Trustees have directed that all male students, except those in the Law School, seniors and juniors in the Collegiate Department, and such others as may be specially excused, shall be enrolled in the battalion. A uniform has been prescribed, with which each member is required to provide himself; and fifty minutes a day are devoted to drill, except on those days when instruction in tactics is given.

TERMS AND VACATIONS.

The first term of each college year begins on the Wednesday following the tenth day of September, and closes on the Wednesday preceding Christmas. The second term begins on the Wednesday following the first day of January, and closes on the Friday following the twenty-first day of March. The third term begins on the Monday following the close of the second term, and closes on Commencement Day, which is the Wednesday following the eleventh day of June.

Regular college exercises are omitted on Thanksgiving Day and the day following, on the twenty-second day of February, and on Memorial Day.

FEES.

I. COLLEGIATE DEPARTMENT AND PREPARATORY DEPARTMENT.

INCIDENTAL FEE.—A charge of five dollars a term, or fifteen dollars a year, is made against all students, under the head of incidental expense. In the case of former students, if this fee is not paid until the second day of the term, one dollar will be added; and for each succeeding day of delinquency, fifty cents will be added.

LABORATORY FEES.—Students in the laboratories are required to pay fees to cover, in part, the cost of the materials consumed, and the deterioration of the expensive instruments used by them. The following are the fees charged in the different laboratories:

Laboratory of General Chemistry.....	\$ 10 00
Laboratory of Agricultural Chemistry.....	8 00
Laboratory of Physics, five hours a week.....	7 00
Laboratory of Physics, two or three hours a week.....	5 00
Laboratory of Pharmacy.....	8 00
Laboratory of Histology.....	5 00
Laboratory of Comparative Anatomy.....	5 00
Laboratory of Zoology.....	5 00
Laboratory of Physiology.....	5 00
Laboratory of Botany.....	2 00
Metallurgical Laboratory.....	7 00
Mechanical Laboratory.....	5 00

All term dues must be paid at the opening of each term as a condition of admission to classes.

GRADUATION FEE.—A fee of five dollars to cover expenses of graduation, diplomas, etc., is required of each person receiving one of the ordinary degrees from the University, and this fee must be paid before the degree is conferred. A like fee of ten dollars is charged to each person receiving one of the higher or graduate degrees.

FREE SCHOLARSHIPS IN AGRICULTURE.—A free scholarship in the Short Course in Agriculture is granted to one student annually from each county in Ohio. Each scholarship is valid for two years from its grant and covers all college dues, (incidental and laboratory fees), but the person appointed to receive its benefits is subject to all the other conditions prescribed for admission to that Course. The appointments are made by the county boards of agriculture, and are not transferable by the appointees. For further information concerning these scholarships, inquiries should be addressed to the President of the University or the Professor of Agriculture.

II. LAW SCHOOL.

INCIDENTAL FEE.—An incidental fee of fifteen dollars per year is charged to regular undergraduate students, payable in advance at the beginning of the year.

Upon the payment of the incidental fee Law Students will be admitted to all the privileges of all the other Departments of the University, upon the same terms as to admission, discipline, character of studies selected, etc., as other students in the Collegiate Department.

TUITION FEE.—In addition to the incidental fee named above, a tuition fee of forty-five dollars per year is charged to regular undergraduate students, payable in advance at the beginning of the year. Collegiate students who elect work in the School of Law will be charged such part of the forty-five dollars tuition as is proportioned to the number of hours elected.

GRADUATE FEE.—A graduate fee of thirty dollars per year is charged to all who take the full graduate work, payable in advance.

DIPLOMA FEES.—A fee of five dollars [to cover the expenses of graduation, diplomas, etc.,] is charged to all who take the degree of Bachelor of Laws, and a fee of ten dollars is charged to those taking the degree of Master of Laws. These fees must be paid before the degrees are conferred.

Special students will be required to arrange their fees satisfactorily with the Dean or Secretary before being admitted.

OTHER EXPENSES.

There are two dormitories on the University grounds for the use of students. Each occupant is charged by the University a rent of one dollar and fifty cents a term.

The South Dormitory affords unfurnished rooms to such students as desire to board themselves, and thus to reduce their expenses to a minimum. Twenty stu

dents can be accommodated in this building, two students being assigned to each room. The expense of living in this way falls below two dollars per week. Applications for rooms should be made to the President of the University.

The North Dormitory will accommodate more than sixty students. It is, for the present, turned over to the University Club. Board, furnished room, fuel, light and washing are, at present prices, supplied for about \$3.25 a week. New students will not, however, be admitted without special recommendation to the President of the University, and by him to the club. A student who occupies a room in either dormitory at the close of a collegiate year has a preferred claim for the next year; but when a student has once relinquished his room he can re-enter the dormitory only on the recommendation of the President of the University, and under the same conditions as a new student.

Boarding clubs are also formed in the neighborhood of the University. Several such clubs have been organized with very satisfactory results. Furnished rooms are rented at seventy-five cents to one dollar a week for each student, and the cost of board is two dollars to three dollars a week.

Board, with furnished rooms, can be obtained in private families, within convenient distances of the University, at rates varying from four dollars to five dollars a week. The ruling rate may be taken as four dollars and fifty cents.

The uniform with which the members of the battalion are required to provide themselves costs about twenty-three dollars.

The expenses of a student in the Collegiate Department for a year may be estimated as follows, excluding clothing (except uniform) and traveling expenses:

	Low.	Moderate.	Liberal.
Incidental fees.....	\$ 15 00	\$ 15 00	\$ 15 00
Laboratory fees.....	15 00	54 00
Books and Stationery.....	15 00	25 00	40 00
Room.....	4 50	37 00	75 00
Furniture.....	10 00
Board.....	70 00	110 00	150 00
Uniform.....	20 00	22 50	25 00
	<u>\$ 134 50</u>	<u>\$ 224 50</u>	<u>\$ 359 00</u>

The second and third estimates for room include light, fuel and care. The third one is for a room occupied by a single student. The requirements for laboratory fees and books depend upon the course of study pursued.

The expenses of a year in the Law School may be estimated as follows, excluding clothing and traveling expenses:

	Low.	Moderate.	Liberal.
Incidental fees and Tuition.....	\$ 60 00	\$ 60 00	\$ 60 00
Books and Stationery.....	25 00	40 00	60 00
Room.....	25 00	35 00	75 00
Board.....	60 00	110 00	180 00
	<u>\$ 170 00</u>	<u>\$ 245 00</u>	<u>\$ 375 00</u>

OUTSIDE EMPLOYMENT.

There is a large amount of work on the University farm which can be performed to advantage by the students, and for which they are paid at current rates for such labor. Some students defray all their expenses in this way. Preference is given to students in the Department of Agriculture, and to those who are ready to devote a certain number of hours each day to the work assigned. Applications for employment should be made to Mr. Franklin P. Stump, Foreman of the University Farm, Columbus, Ohio. *Work can not be promised to all applicants.*

AIDS TO MORAL AND RELIGIOUS CULTURE.

Chapel services are held daily, except Saturday and Sunday, at the University, at which the attendance of all students is required, except when they are excused for special reasons. The services usually consist of singing, reading of the scriptures, and prayer.

During each year a series of discourses on moral and religious topics are delivered before the University on Sunday afternoons. The subjects have covered a wide range, and have been discussed with distinguished ability. Men of wide reputation for their talents and eloquence have taken part in these courses, and the strong interest awakened has been attested by large audiences.

The course delivered last year was as follows:

1. The Factors of Life—President Scott.
2. How Shall We Slay Our Cerberus?—Washington Gladden, D. D.
3. The Ethics of the Gospel—Rev. F. A. Henry.
4. A Young Man's Question and an Old Man's Answer—President Thwing of Western Reserve University.
5. The Best Evidence of Christianity—President Ballantine of Oberlin College.

One of the most commendable organizations in the University is a branch of the International Young Men's Christian Association. It was begun several years ago by a few Christian students, and has steadily grown in numbers and influence. Services are held weekly. New students are made cordially welcome, and young church members will here enjoy Christian influences and fellowship in college life.

A branch of the King's Daughters has also been organized by the young women, and holds its meetings once a week.

LITERARY, ECONOMIC, AND SCIENTIFIC SOCIETIES.

The Alcyone Literary Society, founded in 1874, and the Horton Literary Society, founded in 1875, both composed of young men, have commodious and well furnished halls in University Hall. The Browning Literary Society, founded in 1883, is the young women's society, and has a hall which has been neatly and tastefully fitted up. These societies meet weekly, and their work, offering to the student a very desirable training in composition, public speaking, and parliamentary order, is a valuable adjunct to collegiate education.

The Biological Club is an organization of professors and students for mutual assistance and improvement in the line of natural science. Its meetings are regularly held every two weeks, at which papers are read, notes of observation and research presented, and current biological literature discussed.

The Political Science Association is an organization of instructors and students in political science and history for the consideration of questions in those fields. At the regular bi-weekly meetings of the association papers are read, researches reported, and current questions and publications in political science considered and discussed.

PHYSICAL TRAINING.

For the physical development and training of students the practical instruction in military tactics is found to be a most valuable aid. In addition to this, the University grounds afford excellent opportunities for general athletics, and the students support well organized clubs in base-ball, foot-ball, lawn-tennis. These general sports are participated in by large numbers, and friendly contests are occasionally held with other colleges. Besides the special clubs named above, the students have an athletic association which holds an annual "Field Day," in which prizes are given to the victors in the various contests usual on such occasions.

LECTURES ON AGRICULTURE.

During the second and third terms of the year twelve lectures by prominent citizens of the state were delivered before the students of the Agricultural Department, as follows:

1. The Horse in History—L. N. Bonham.
2. The Rotation of Crops—L. N. Bonham.
3. The Need of Science to the Farmer—E. C. Ellis.
4. Science in Agriculture—Joshua Crawford.
5. Opportunities in Farming—T. B. Terry.
6. Money in Clover—T. B. Terry.
7. Wheat Growing that Pays—T. B. Terry.
8. A Remedy for Hard Times—T. B. Terry.
9. Why we Drain—W. I. Chamberlain.
10. How to Drain—W. I. Chamberlain.
11. The Principles of Breeding—J. McLain Smith.
12. The Maintenance of Soil Fertility—C. E. Thorne.

OHIO FORESTRY BUREAU.

This Bureau has been established and located at the University by the Legislature for the purpose of inquiring into the best means of preserving and utilizing the forests of the State.

COLLEGIATE DEPARTMENT.

ORGANIZATION.

SCHOOLS.

The collegiate work of the University is divided into six schools, as follows :

The School of Arts and Philosophy consists of those departments represented in the Courses leading to the degrees of Bachelor of Arts and Bachelor of Philosophy.

The School of Science consists of those departments represented in the Course leading to the degree of Bachelor of Science.

The School of Agriculture consists of those departments represented in the Courses leading to the degrees of Bachelor of Science in Agriculture, and Bachelor of Science in Horticulture and Forestry, and in the Short Course in Agriculture.

The School of Engineering consists of those departments represented in the Courses leading to the degrees of Civil Engineer, Engineer of Mines and Mechanical Engineer, and in the Short Course in Mining.

The School of Pharmacy consists of those departments represented in the Course leading to the degree of Graduate in Pharmacy.

The School of Veterinary Medicine consists of those departments represented in the course leading to the degree of Doctor of Veterinary Medicine.

Each School is under the direction of a standing committee of the Faculty, having power to act in all matters pertaining to the studies of students in the school, in the transfer of students from one school to another, and in matters of minor discipline.

COURSES OF STUDY.

The following Courses of study lead to the degrees as indicated in each case :

I. FOUR-YEAR COURSES.

1. The Course in Arts, for the degree of Bachelor of Arts (B. A.).
2. The Latin Course in Philosophy for the degree of Bachelor of Philosophy (B. Ph.).
3. The Modern Language Course in Philosophy, for the degree of Bachelor of Philosophy (B. Ph.).
4. The English Course in Philosophy for the degree of Bachelor of Philosophy (B. Ph.).
5. The Course in Science, for the degree of Bachelor of Science (B. Sc.).
6. The Course in Agriculture, for the degree of Bachelor of Science in Agriculture (B. Sc.).
7. The Course in Horticulture and Forestry, for the degree of Bachelor of Science in Horticulture and Forestry (B. Sc.).
8. The Course in Civil Engineering, for the degree of Civil Engineer (C. E.).
9. The Course in Mining Engineering, for the degree of Engineer of Mines (E. M.).
10. The Course in Mechanical Engineering, for the degree of Mechanical Engineer (M. E.).
11. The Course in Electrical Engineering, for the degree of Mechanical Engineer (M. E.).

II. THREE-YEAR COURSES.

1. The Course in Pharmacy, for the degree of Graduate in Pharmacy (G. Ph.).
2. The Course in Veterinary Medicine, for the degree of Doctor of Veterinary Medicine (D. V. M.).

III. SHORT COURSES, NOT LEADING TO A DEGREE.

1. The Short Course in Agriculture.
2. The Short Course in Mining.

ADMISSION.

The University is open on equal terms to both sexes.

The entrance examinations for 1893 will be held on Monday and Tuesday, June 12 and 13, and on Monday and Tuesday, September 11 and 12. A part of the examinations may be taken in June and the remainder in September. Conditions incurred at the June examinations must be removed at the September examinations.

Candidates who come from other colleges or universities are required to bring certificates of honorable dismissal.

(A). ADMISSION TO THE FOUR-YEAR COURSES.

Candidates for admission to the Course in Arts, Philosophy, Science, Agriculture, or Horticulture and Forestry, must be at least sixteen years of age; candidates for admission to any of the Courses in Engineering must be at least seventeen years of age. All must be provided with credentials of scholarship from their last instructor or from the last institution with which they have been connected.

There are three modes of admission to the Freshman class:

1. Candidates who have, in the Preparatory Department of the University, successfully completed the studies requisite for the Course they desire to enter, are admitted without examination.

2. Certificates of high schools and normal schools in Ohio are accepted, if found satisfactory, in lieu of examination, for preparatory studies, under the following conditions:

(a) Each certificate must show that the candidate has completed the course of study in the school from which he comes, and must further contain a detailed statement of the studies pursued, the text books used, the amount of work done in each study, the amount of time devoted to it, the date of the examination, and the rank or standing of the candidate in it. A copy of the course of study should accompany the certificate; and both should be sent to the University not later than the first of September.

(b) From time to time the Faculty has approved the course of study in certain high schools of the state; and the graduates of these high schools are admitted to Freshman work on presentation of their diplomas, subject, however, to conditions in all required studies not included in their high school course.¹

¹NOTE—In case the authorities of any high school or normal school desire to have a definite standing fixed for the admission of its graduates, a committee of the Faculty will visit the school and, on the report of this committee, a standing will be fixed for the graduates of the school, such standing to be valid for a period of three years.

The list of high schools to whose graduates a definite standing has been assigned in accordance with the foregoing is at present as follows: Akron, Alliance, Barnesville (Four-year Course), Batavia, Bellaire, Canton, Carey, Chardon, Chillicothe, Cincinnati, Cincinnati Technical School, Circleville, Cleveland, Columbus, Coshocton (Latin Course), Dayton, Defiance, Delaware, East Liverpool, Elyria, Fremont, Galion, Gallipolis, Grand River Institute, Hamilton, Hillsboro, Iron-ton, Lancaster, Lima, Lorain, Mansfield, Marietta, Massillon, Marion, Miamisburg, Middletown, Mt. Sterling, Mt. Vernon, Newark, New South Lyme, New Vienna, Norwalk, Piqua, Pomeroy, Portsmouth, Richwood, Sandusky, Salem, Sidney, Springfield, Steubenville, Tiffin, Toledo, Troy, Urbana, Van Wert, Warren, Wooster, Xenia, Youngstown and Zanesville.

3. All other candidates are subject to examination on the group of studies mentioned below, under the headings of those Courses in the University, which they severally desire to enter. Full equivalents for the text-books named will be accepted. A part of the work required for admission to the various courses may be done in the Preparatory Department of the University. (See page —.).

I. FOR ADMISSION TO THE COURSE IN ARTS.

The following are the requirements for admission:

1. *Grammar, Geography, Arithmetic.*
2. *English.*—Hill's Elements of Rhetoric; and an essay of about five hundred words to be written in the presence of the examiner, correct in spelling, grammar, punctuation, capital letters, sentential structure, and paragraphing. The subjects for 1893 will be taken from the following works, with the substance of which—the plots, incidents, characters, etc.—it is expected that the candidate will make himself thoroughly familiar: Shakespeare's Julius Cæsar and Merchant of Venice; Coleridge's Ancient Mariner; Longfellow's Evangeline; Macanlay's Essays on Milton and Addison; Webster's First Bunker Hill Oration; Addison's Sir Roger de Coverley; Scott's Ivanhoe; George Eliot's Silas Marner; Hawthorne's House of the Seven Gables. The well-edited Students' Series of English Classics, by Leach, Shewell and Sanborn, is recommended.

For securing the proper preparation, the following course is recommended: (1). A few lessons and constant practice in the proper use of the Unabridged Dictionaries. (2). A thorough mastery of the elements of English Grammar. (3). Daily recitations for at least one term in some such work as Hill's Elements of Rhetoric and Composition. (4). Weekly exercises in original composition for at least one year. Scott & Denney's Paragraph Writing is recommended as a hand-book. (5). A careful reading of the works enumerated above.

3. *History.*—Johnston's History of the United States; and Myers's General History.

4. *Civil Government.*—Fiske's, Martin's or Macy's.
5. *Algebra.*—Wentworth's Elements of Algebra, complete.
6. *Geometry.*—Wentworth's Plane and Solid Geometry.
7. *Trigonometry.*—Lock's Elementary Trigonometry.
8. Any one of the following: Botany, Physiology, Geology, Astronomy.
9. *Physical Geography*—Geikie's Physical Geography.
10. *Physics.*—Gage's Elements of Physics.
11. *Latin.*—Pronunciation (the Roman method preferred); Grammar (Allen and Greenough's, revised edition, preferred); Prose Composition; Cæsar, the first four books of the *De Bello Gallico*; Cicero, the first four orations against Catiline, and the orations for Archias and Marcellus; Vergil, the first six books of the *Æneid*. History of Rome, (Pennell's preferred.)

II. FOR ADMISSION TO THE LATIN COURSE IN PHILOSOPHY.

The requirements are the same as for admission to the Course in Arts.

III. FOR ADMISSION TO THE MODERN LANGUAGE COURSE IN PHILOSOPHY.

The requirements are the same as for admission to the Course in Arts, except that for the foreign language required, candidates may offer either *Latin*, as for the Course in Arts, or *German*, as follows:

Joynes-Meissner's German Grammar, complete; Joynes's German Reader, complete; Hauff's *Liechtenstein*, Heyse's *Drei Novellen* and Heine's *Harzreise*. Equivalents are accepted.

IV. FOR ADMISSION TO THE ENGLISH COURSE IN PHILOSOPHY.

The requirements are as follows :

1. *Grammar, Geography and Arithmetic.*
2. *English Language.*—The same as for admission to the Course in Arts; and inasmuch as no foreign language is required in preparation for this Course, it will be necessary, in order to secure a corresponding grade of attainments, to give more time to the study of the English language than is required in preparation for the other Courses, as follows :
3. *English Literature.*—Daily recitations for at least one year will be requisite. Stopford A. Brooke's Primer, or any other manual may be used for an outline of the subject. As much time as practicable should be given to the careful reading of representative authors in each period.
4. *History.*—Myers's General History, and Johnston's History of the United States.
5. *Civil Government.*—Fiske's, Martin's or Macy's.
6. *Algebra.*—Wentworth's Elements of Algebra, complete.
7. *Geometry.*—Wentworth's Plane and Solid Geometry.
8. *Trigonometry.*—Lock's Elementary Trigonometry.
9. *Physics.*—Gage's Elements of Physics.
10. *Physical Geography.*—Geikie's Physical Geography.
11. *Botany, Chemistry, Geology, Zoology, Physiology and Astronomy.*—A term's work in each of *four* of these subjects (or an equivalent in *two* or in *three* of them) will be requisite.
12. *French, German and Latin.*—In place of the *English Literature* and *three* of the *four optional sciences* specified above, the candidate for admission may present *French*, or *German* or *Latin*, in amount equivalent to two years' work of daily recitations.

V. FOR ADMISSION TO THE COURSE IN SCIENCE.

The requirements are the same as for admission to the Course in Arts, except that the candidate may offer, for the foreign language required, either *German*, the same as for the Modern Language Course in Philosophy, or *Latin*, as for the Course in Arts.

VI. FOR ADMISSION TO THE COURSE IN AGRICULTURE.

The following are the requirements for admission :

1. *Grammar, Geography and Arithmetic.*
2. *History.*—History of the United States, Johnston's preferred.
3. *Algebra.*—Wentworth's Elements of Algebra, complete, or an equivalent.
4. *Plane Geometry.*—Wentworth's or an equivalent.
5. *Physics.*—Gage's Elements of Physics, complete, or an equivalent.
6. *English.*—Hill's Elements of Rhetoric, or an equivalent.
7. *Botany.*—Gray's Botany, or an equivalent.
8. *Physical Geography.*—Geikie's Physical Geography, or an equivalent.
9. Any one of the following subjects :
 - (a) *Solid Geometry.*—Wentworth's, or an equivalent.
 - (b) *Civil Government.*—Fiske's, Martin's or Macy's preferred.
 - (c) *General History.*—Myers's preferred.

VII. FOR ADMISSION TO THE COURSE IN HORTICULTURE AND FORESTRY.

The requirements are the same as for admission to the Course in Agriculture.

VIII. FOR ADMISSION TO THE COURSE IN CIVIL ENGINEERING.

Candidates must be at least seventeen years of age.

The following are the requirements for admission :

1. *Grammar, Geography and Arithmetic.*
2. *Algebra.*—Wentworth's Elements of Algebra, complete, or an equivalent.
3. *Geometry, Plane and Solid.*—Wentworth's, or an equivalent.
4. *Physics.*—Gage's Elements of Physics, complete, or an equivalent.
5. *English.*—Hill's Elements of Rhetoric, or an equivalent; and an essay of about five hundred words to be written in the presence of the examiner, correct in spelling, punctuation, capital letters, grammar, sentential structure and paragraphing. The subjects for 1893 will be taken from the following works, with the substance of which—the plots, incidents, characters, etc.—it is expected that the candidate will make himself thoroughly familiar: Shakespeare's Julius Cæsar and Merchant of Venice; Coleridge's Ancient Mariner; Longfellow's Evangeline; Macaulay's Essays on Milton and Addison; Webster's First Bunker Hill Oration; Addison's Sir Roger de Coverley; Scott's Ivanhoe; George Eliot's Silas Marner; Hawthorne's House of the Seven Gables. Equivalents of these will be accepted.

6. *History.*—Johnston's History of the United States, or an equivalent.

7. Any two subjects chosen by the candidate from the following :

- (a) *Botany.*—Gray's Botany preferred.
- (b) *Physical Geography.*—Geikie's preferred.
- (c) *Physiology.*
- (d) *Astronomy.*
- (e) *Civil Government.*—Fiske's Martin's or Macy's preferred.
- (f) *General History.*—Myers's preferred.
- (g) *English Literature.*—Stopford Brooke's or Shaw's.

IX. FOR ADMISSION TO THE COURSE IN MINING ENGINEERING.

Candidates must be at least seventeen years of age.

The requirements are the same as for admission to the Course in Civil Engineering.

X. FOR ADMISSION TO THE COURSE IN MECHANICAL ENGINEERING.

Candidates must be at least seventeen years of age.

The requirements are the same as for admission to the Course in Civil Engineering.

XI. FOR ADMISSION TO THE COURSE IN ELECTRICAL ENGINEERING

Candidates must be at least seventeen years of age.

The requirements are the same as for admission to the Course in Civil Engineering.

(B). ADMISSION TO THE THREE-YEAR COURSES.

I. FOR ADMISSION TO THE COURSE IN PHARMACY.

Candidates must be at least sixteen years of age; and are subject to examination in orthography, grammar, geography, arithmetic and algebra. The requirement in algebra is the first eight chapters of Wentworth's Elements of Algebra, or an equivalent amount. Candidates who have had two years' experience in a drug store will be admitted as special students without examination in algebra provided that if any such student afterwards becomes a candidate for a degree, he shall pass the omitted examination before the degree is conferred.

II. FOR ADMISSION TO THE COURSE IN VETERINARY MEDICINE.

1. For applicants not candidates for a degree. Candidates must be at least seventeen years of age; and are subject to examination in grammar, geography and arithmetic.

2. For applicants who intend to become candidates for the degree of Doctor of Veterinary Medicine.

Candidates must be at least seventeen years of age; and are subject to examination as follows:

1. Grammar, Geography and Arithmetic.
2. History of the United States, Johnston's preferred.
3. Physics, Gage's, or an equivalent.
4. Hill's Elements of Rhetoric, or an equivalent.
5. Gray's Botany, or an equivalent.
6. Geikie's Physical Geography, or an equivalent.
7. One year of Latin or German.

For admission to either of these Courses high school diplomas or teachers' certificates, good for at least one year, will be accepted in lieu of examination in the subjects which they include. Teachers' certificates must be valid at the time they are presented.

(C). ADMISSION TO THE SHORT COURSES.

I. FOR ADMISSION TO THE SHORT COURSE IN AGRICULTURE.

Candidates must be at least fifteen years of age, and unless they are over twenty-one years of age must pass an examination in grammar, geography, arithmetic, and United States history. Candidates who are over twenty-one are admitted without examination.

II. FOR ADMISSION TO THE SHORT COURSE IN MINING.

Candidates are examined in orthography, grammar, geography and arithmetic; but those who are over twenty-one years of age are admitted without examination.

For admission to either of these Courses high school diplomas or teachers' certificates good for at least one year, will be accepted in lieu of examination. Teachers' certificates must be valid at the time they are presented.

(D). ADMISSION TO SPECIAL STUDIES.

Students who desire to pursue special lines of work in the Collegiate Department of the University, and do not desire to become candidates for degrees, will be admitted on the following conditions:

1. When the greater part of the work lies in the Courses in Arts and Philosophy, the regular entrance examinations must be passed.

2. When the greater part of the special work lies in the Course in Science, the examination in the language required for admission may be omitted at the option of the committee of the School of Science.

3. Applicants who are not less than twenty-one years of age, after passing an examination for admission to the Preparatory Department, may be excused by the appropriate committee from such studies or examinations in the preparatory course as may be deemed best; provided, that if any such student afterwards becomes a candidate for a degree, he shall pass the omitted examinations at least one year before the degree is conferred. For the Courses in Mechanical and Electrical Engineering the limit in age for such students is eighteen years instead of twenty-one.

4. On entering the University, students desiring to pursue special work are required to lay before the proper committee, for approval or modification, a written statement of the end they have in view, the studies proposed for the attainment of that end, and the probable period of attendance. Such students will be held as strictly to their accepted schemes of work as are the regular undergraduates to their course of study. Permission to enter as special undergraduates will be refused to all of whose definiteness of purpose the committee fails to receive satisfactory evidence, and will be withdrawn whenever the conditions on which it was granted cease to exist.

(E). ADMISSION TO ADVANCED STANDING.

1. Candidates who do not come from some other university or college must first obtain admission to the University in the manner already described; they will then be examined on such undergraduate studies as they may ask to be credited with in advance.

2. Candidates who come from the collegiate department of an approved college, and who bring explicit and official certificates describing their course of study and scholarship, and also certificates of honorable dismissal, will be admitted without examination, except such as may be necessary to determine what credit they are to receive here for work done in the college from which they have come.

(F). ADMISSION TO GRADUATE WORK.

Graduates of this or other institutions, may, on application to the Faculty, enter the University and pursue such lines of work as may be arranged or approved by the appropriate collegiate committee. Such graduate students are subject to all the ordinary regulations (as to fees, attendance, etc.,) prescribed for undergraduates.

REGISTRATION.

All students are required to register and pay their term fees on the first day of each term, between the hours of 8:30 A. M. and 12 M., or between 1:30 and 4:30 P. M., central standard time.

Former students who fail to register on this day will be charged one dollar in addition to the usual incidental fee, for the first day of delinquency, and fifty cents additional for each subsequent day.

MATRICULATION.

Each regular undergraduate, on being admitted to the college classes, will sign the matriculation book, and will be certified by the President or the Secretary of the Faculty to the secretary of the appropriate committee, with a statement of the course and class to which he is admitted, and what conditions, if any, are imposed.

Each special undergraduate, on being admitted to the work of the college classes, will sign the matriculation book, and will be certified to the proper secretary.

CLASSIFICATION OF STUDENTS.

Every undergraduate student enters one of the Schools of the University. In case of irregularity he is assigned to that one in which the majority of his studies are found. Collegiate students are classified as follows: 1. Graduates; 2. Regular Undergraduates; 3. Special Undergraduates.

Graduate students are graduates of this or other approved colleges or universities who are pursuing studies in advance of those represented by their respective degrees as here conferred.

Regular Undergraduates are candidates for any of the ordinary degrees, and regular students in the Short Courses.

Special Undergraduates are students who, having attained college rank, have been admitted to pursue special lines of work.

RULES AND REGULATIONS.

AMOUNT OF WORK.

No student is permitted to take less than fifteen or more than eighteen hours a week of class-room work, except by special permission of the committee of the School in which he is enrolled; and no student will be permitted to take more than the regular work of the class to which he belongs, who has not passed all his work for the preceding term.

ELECTIVE STUDIES.

All elections of work in continuous studies, when once made, are understood to be made for the entire collegiate year.

The right is reserved to withdraw the offer of any elective study when it is not chosen by at least four persons.

EXAMINATIONS AND STANDING.

The standing of students is reported at the end of each term. This standing is determined by the head of each department by such means and methods as he may choose; but no student is reported failed without the opportunity of a written examination.

The standing of students in each study is reported at the end of a term as "passed with merit," "passed," "conditioned," or "failed."

The standing "passed," or "passed with merit," indicates that the student has obtained full credit for the term's work in the study in which this standing is obtained.

The standing "conditioned" indicates that credit for the term's work in the study in which the condition was incurred, is deferred. The student is given an opportunity in the following term to obtain this credit by a re-examination; or, if the study be a continuous one, the professor in charge may, at his discretion, excuse the student from re-examination, and allow credit to be obtained by successfully pursuing the study during the following term. If the student thus excused from re-examination does not pass upon the work of the second term, he is reported as "failed" in the work of both terms.

The standing "failed" indicates that no credit is given for the term's work in that study in which the failure is incurred, and that the student will be required to pursue the same study, in class, in the following year. In case of failure in any continuous study, the work of the term in which the failure occurred must be repeated, in class, before any subsequent term's work in that study can be commenced.

Unexcused absence from any regular examination is construed as a failure therein.

At the close of each term students must obtain credit for two-thirds of their work for the term in order to retain their connection with the University; but if students who have not passed in the requisite amount of work can make good their deficiency by the removal of conditions, they may do so at the beginning of the following term, and thus reinstate themselves.

Students reported at the end of any term as failed in one-half their work, forfeit their connection with the University.

ATTENDANCE AND DISCIPLINE.

The State of Ohio offers the privileges of the University to all properly qualified persons who seek those privileges. But the University has no place in its crowded class rooms and laboratories for those who are idle and dissipated. Its young men and young women are expected to show themselves gentlemen and ladies at all times.

Experience has shown that a minute and rigorous code of rules is quite unnecessary here. The following general statements may suffice:

Absence and tardiness are usually dealt with by the instructor in whose department they occur; repeated and persistent cases are referred to the Faculty.

Cases of minor discipline are decided by the committee of the appropriate School; grave offenses against college order are referred to the Faculty for adjudication.

Students are suspended or dismissed whenever, in the opinion of the Faculty they are pursuing a course of conduct seriously detrimental to themselves or to the University.

DEGREES.

ORDINARY DEGREES.

The degree of Bachelor of Arts is conferred on students who have completed the Course in Arts; the degree of Bachelor of Philosophy on those who have completed the Latin Course in Philosophy, the Modern Language Course in Philosophy or the English Course in Philosophy; the degree of Bachelor of Science on those who have completed the Course in Science.

The degree of Bachelor of Science in Agriculture is conferred on those who have completed the full Course in Agriculture; the degree of Bachelor of Science in Horticulture and Forestry on those who have completed the Course in Horticulture and Forestry.

The degree of Civil Engineer is conferred on those who have completed the Course in Civil Engineering; that of Engineer of Mines on those who have completed the Course in Mining Engineering; that of Mechanical Engineer on those who have completed the Course in Mechanical Engineering or that in Electrical Engineering.

The degree of Graduate in Pharmacy is conferred on those who have completed the Course in Pharmacy; and that of Doctor of Veterinary Medicine on those who have completed the Course in Veterinary Medicine.

Except by unanimous consent of the Faculty, no candidate for graduation will be recommended for a degree, whose record is not in all respects complete by the Friday evening previous to the Commencement Day on which he seeks the degree.

THE HIGHER DEGREES.

1. **MASTERS' DEGREES.**—Masters' degrees are conferred upon graduates in Arts, Philosophy, Science, Agriculture or Horticulture and Forestry at the end of not less than one year's residence, during which the candidate is required to pursue and complete an approved course of study in the University. He is required, in addition, to present an acceptable thesis upon some subject connected with his course of study. Masters' degrees are conferred without residence *upon graduates of this institution*, upon the same conditions of study and thesis as above; but these degrees will not be so conferred within less than three years after graduation.

2. **DOCTORS' DEGREES.**—The degree of Doctor of Philosophy is conferred upon Bachelors of Arts, Bachelors of Philosophy, and Bachelors of Science at the end of not less than three years' residence and study, during the latter two years of which the candidate is required to pursue and complete an approved course of study in at least two distinct departments of the University. He is, in addition, required to present an acceptable thesis, embodying original research.

The degree of Doctor of Science is conferred upon Bachelors of Science and graduates in the full technical courses, at the end of a course of special, advanced study in science, upon the same conditions as to residence, time, and other requirements as are established for the degree of Doctor of Philosophy.

FEES AND OTHER EXPENSES.

For information in regard to fees and other expenses, see pages 24 to 26.

FREE SCHOLARSHIPS.

For information in regard to free scholarships in Agriculture, see page 25.

Courses of Instruction.

The instruction given in the Collegiate Department of the University embraces a wide range of subjects. Detailed information concerning the Courses offered in any subject will be found under the proper head, in accordance with the following classification :

Agriculture.	Italian. (See Romance Languages.)
Agricultural Chemistry.	Latin.
Astronomy.	Mathematics.
Botany.	Mechanical Engineering.
Civil Engineering.	Metallurgy.
Drawing.	Mine Engineering.
Electrical Engineering. (See Physics and Electrical Engineering.)	Military Science and Tactics.
English and Rhetoric.	Pharmacy.
French. (See Romance Languages.)	Philosophy.
General Chemistry.	Physics and Electrical Engineering.
Geology.	Physiology.
German.	Political Science.
Greek.	Rhetoric. (See English and Rhetoric.)
History.	Romance Languages.
Horticulture.	Spanish. (See Romance Languages.)
	Veterinary Medicine.
	Zoology and Entomology.

AGRICULTURE.

1. AGRICULTURE—Lectures and recitations.

FIRST TERM.—Three times a week. Farm Equipment.

SECOND TERM.—Three times a week. Soils.

THIRD TERM.—Three times a week. Farm Crops.

Text books and books of reference for this course ; First term—Elliott's Farm Drainage, Waring on Drainage, Stewart on Irrigation, Haupt's "A Move for Better Roads," Thomas's Farm Implements and Machinery, Sanders's Barn Buildings. Second Term—Storer's Agriculture, Morrow and Hunt's Soils and Farm Crops, Stockbridge's Rocks and Soils, Wahnschaffe's Scientific Examination of Soils, Johnson's How Crops Feed. Third Term—Storer's Agriculture, Morrow and Hunt's Soils and Farm Crops, Brewer's Monograph on Cereals, Tenth Census, Vol. III. Constant reference is made to books on special crops and to the reports and bulletins of Experiment Stations.

Professor HUNT.

Required in the Junior year of the Courses in Agriculture, and Horticulture and Forestry and in the second year of the Short Course in Agriculture.

2. DOMESTIC ANIMALS—Lectures and recitations.

FIRST TERM.—Four times a week. Breeds of Live Stock.

SECOND TERM.—Four times a week. Stock Breeding.

THIRD TERM.—Four times a week. Stock Feeding and Hygiene.

Text books and books of reference used by the students in the preparation of their work: First Term—Curtis's Horses, Cattle, Sheep, and Swine, Low's Domesticated Animals, Sanders's Breeds of Live Stock, Wallace's Live Stock of Great Britain, with references to special classes and breeds. Second Term—Miles's Stock Breeding, Warfield's Cattle Breeding, Darwin's Plants and Animals under Domestication. Third Term—Armsby's Cattle Feeding, Stewart's Feeding Animals, Experiment Station Reports and Bulletins.

Professor HUNT.

Required in the Sophomore year of the full Course in Agriculture; in the second year of the Short Course in Agriculture; and in the second year of the Course in Veterinary Medicine.

3. PATHOLOGY AND THERAPEUTICS—Lectures and recitations.

FIRST TERM.—Diseases of animals, their causes, prevention, and cure. Stone's Elements of Medicine.

SECOND TERM.—A study of remedial agents. Bruce's Materia Medica.

THIRD TERM.—Special Pathology. Law's The Farmer's Veterinary Adviser.

Professor TOWNSHEND.

Required during 1892-93 in the Junior year of the full course in Agriculture, in the second year of the Short Course in Agriculture, in the second year of the Course in Veterinary Medicine, and in the third year of the Course in Pharmacy.

4. ADVANCED AGRICULTURE—Lectures and recitations.

FIRST TERM.—Animal Husbandry and Exterior. The care, management, and adaptation of animals to specific purposes. Four times a week.

SECOND TERM.—Dairy Husbandry. Four times a week.

THIRD TERM.—Rural Economy. The business of farming, past and present. Four times a week.

Professor HUNT.

Required in the Senior year of the full Course in Agriculture; elective in the Senior year of the Course in Horticulture and Forestry; the first term required in the Course in Veterinary Medicine; the second term elective in the second year of the Short Course in Agriculture.

The first and third terms will be given in alternate years and will be given in 1893-94.

For facilities see LABORATORIES AND EQUIPMENT.

 AGRICULTURAL CHEMISTRY.

1. AGRICULTURAL CHEMISTRY.

FIRST TERM.—Five times a week. Principles of chemistry and chemical nomenclature. Lectures and text-book for three or four weeks. For remainder of term, chemistry of non-metals, twice a week. Laboratory practice, qualitative analysis, three times a week.

Professor WEBER.

Required in the first year of the Short Course in Agriculture, in the Freshman year of the Course in Agriculture, of the Course in Horticulture and Forestry, of all Courses in Engineering, and in the first year of the Course in Veterinary Medicine.

2. AGRICULTURAL CHEMISTRY.

SECOND TERM.—Organic chemistry, twice a week. Laboratory practice, qualitative analysis, three times a week.

THIRD TERM.—Application of chemistry to agriculture, twice a week.

Laboratory practice, quantitative analysis, three times a week.

Professor WEBER.

Required in the Freshman year of the Courses in Agriculture, and Horticulture and Forestry, and in the first year of the Short Course in Agriculture and of the Course in Veterinary Medicine.

In the class room Norton's Chemistry is used. As a guide in qualitative analysis Weber's Select Course in Qualitative Analysis is employed. In the third term the lectures embrace the following topics: Organic and inorganic ingredients of plants; essential and non-essential ingredients; sources of plant food, soil and air; nature of soil, mechanical portion, nutritive portion, assimilable and reserve plant food; soil exhaustion and amelioration; barn-yard manure and commercial fertilizers; feeding stuffs and feeding rations.

The laboratory work of the third term begins with the quantitative analysis of simple salts, as sodium sulphate and potassium chloride, and continues with the analysis of lime-stones, clays, soils, fertilizers, feeding stuffs, water, milk, butter, cheese and syrup, including the determination of cane sugar, grape sugar and dextrose.

3. ANALYTICAL CHEMISTRY.

SECOND TERM.—Five times a week. Laboratory practice.

Professor WEBER.

Required in the Freshman year of the Courses in Engineering.

4. AGRICULTURAL CHEMISTRY—Laboratory practice three times a week throughout the year.

In the laboratory the special line of work laid out covers the official methods of analyzing fertilizers, feeding stuffs, and the dairy products; also the analysis of fruits, vegetables, alcoholic liquors, etc.

Professor WEBER.

Required in the Sophomore year of the Courses in Agriculture, and Horticulture and Forestry.

5. AGRICULTURAL CHEMISTRY—Lectures, and laboratory work three times a week throughout the year.

In the lectures special attention will be paid to such industries as are related to agriculture, as the manufacture of butter, cheese, starch, sugar, glucose, vinegar, etc.

Professor WEBER.

Required in the Senior year of the Course in Agriculture.

6. AGRICULTURAL CHEMISTRY—Lectures and laboratory work five times a week throughout the year.

Professor WEBER.

Elective in the Senior year of the Course in Horticulture and Forestry.

For facilities see LABORATORIES AND EQUIPMENT.

ASTRONOMY.

1. DESCRIPTIVE ASTRONOMY—Lectures and recitations.

THIRD TERM.—Five times a week. Young's general Astronomy.

Mr. H. C. LORD.

Required in the Senior year of the Course in Science; elective in the Senior year of the Courses in Arts and Philosophy.

2. MATHEMATICAL ASTRONOMY—Recitations and observatory practice.

FIRST TERM.—Three times a week for one-third of the term. Doolittle's Practical Astronomy.

SECOND AND THIRD TERMS.—Three times a week. Same work continued.

Mr. H. C. LORD.

Required in the Junior year of the Course in Civil Engineering; elective in the Junior or Senior year of the Courses in Arts, Philosophy and Science.

BOTANY.

1. ELEMENTARY BOTANY.

THIRD TERM.—Five times a week. Structural and systematic botany. Gray's Revised Manual; Kellerman's Elements.

Professor KELLERMAN, Mr. WERNER.

Required in the Pharmacy and Veterinary Courses and in the Short Course in Agriculture.

2. GENERAL BOTANY—Lectures, laboratory and field work.

FIRST TERM.—Twice a week. Systematic botany.

SECOND TERM.—Twice a week. Physiological botany.

THIRD TERM.—Twice a week. Cryptogamic botany.

Books of Reference: Gray's Revised Manual, Hackel's True Grasses, Bennett and Murray's Cryptogamic Botany, Gray's Structural Botany, Bessey's Botany, Kellerman's Elements.

Professor KELLERMAN.

Required in the Science Course; elective in the Arts and Philosophy Courses.

3. SPECIAL BOTANY—Lectures, laboratory and field work.

FIRST TERM.—Five times a week. Physiological botany.

SECOND TERM.—Five times a week. Economic botany.

THIRD TERM.—Five times a week. Vegetable pathology.

Goodale's Physiological Botany, Henderson's Hand-book of Plants, Bessey's Botany, Smith's Diseases of Field and Garden Crops.

Professor KELLERMAN, Mr. WERNER.

Required in the Course in Agriculture, and in Horticulture and Forestry; the first term is required in the Short Course in Agriculture and in the Courses in Pharmacy and Veterinary Medicine. Elective in the Courses in Arts, Philosophy and Science.

4. MEDICAL BOTANY (Pharmaceutical)—Lectures and laboratory work.

SECOND TERM.—Twice a week. Professor KELLERMAN, MR. WERNER.

Required in the second year of the Course in Pharmacy.

4a. MEDICAL BOTANY (Veterinary)—Lectures and laboratory work.

FIRST TERM.—Twice a week.

SECOND TERM.—Twice a week. Professor KELLERMAN, MR. WERNER.

Required in the third year of the Course in Veterinary Medicine.

5. ADVANCED LABORATORY WORK.

THREE TERMS.—Five hours a week. Professor KELLERMAN.

This Course is elective in the Courses in Arts, Philosophy, Science, Agriculture, and Horticulture and Forestry.

Course 5 must be preceded by Course 2 or 3.

For facilities see LABORATORIES AND EQUIPMENT.

CIVIL ENGINEERING.

1. LAND SURVEYING—Recitations and field work.

FIRST TERM.—Six times a week. Johnson's Theory and Practice of Surveying. Mr. KEMMLER.

2. RAILROAD SURVEYING—Recitations and field work.

THIRD TERM.—Six times a week. Searle's Field Engineering. Mr. KEMMLER.

3. TOPOGRAPHICAL SURVEYING—Lectures, field work and drawing.

FIRST TERM.—Four times a week. Johnson's Surveying used for reference. Professor BROWN, Lecturer. Mr. KEMMLER, Field Work and Drawing.

4. TECHNICAL DRAWING—Platting, pen and colored topography.

SECOND TERM.—Four times a week. Mr. KEMMLER.

5. TECHNICAL DRAWING—Working drawings and blue-printing.

THIRD TERM.—Twice a week. Mr. KEMMLER.

6. STEREOTOMY—Recitations, drawing, and model cutting.

SECOND TERM.—Four times a week. Warren's Stereotomy. Professor BROWN.

7. BRIDGE STRAINS—Recitations.

THIRD TERM.—Five times a week. Du Bois's Strains in Framed Structures, Part I. Professor BROWN.

8. BRIDGE DESIGNING—Lectures and drawing.

FIRST TERM.—Five times a week. Part II of Du Bois's Strains in Framed Structures, used for reference. Professor BROWN.

9. CIVIL ENGINEERING—Recitations and lectures.

FIRST TERM.—Five times a week. Baker's Masonry Construction.

SECOND TERM.—Five times a week. Lectures.

THIRD TERM.—Five times a week. Fanning's Water Supply. Professor BROWN.

10. SANITARY ENGINEERING—Lectures.

THIRD TERM.—Five times a week. Professor. BROWN.

11. ENGINEERING PERIODICALS.

Two hours a week through the year. Reading and discussion of articles of interest found in the current engineering periodicals and engineering society reports. Professor BROWN, Mr. KEMMLER.

12. CIVIL ENGINEERING LABORATORY.

THIRD TERM.—Five times a week. Professor BROWN, Mr. KEMMLER.

13. FIELD MEASUREMENT—Recitations and field work.

THIRD TERM.—Three times a week. Hodgman and Bellow's Manual of Land Surveying. Mr. KEMMLER.

Courses 1, 2, 4, are required in the Sophomore year of the Course in Civil Engineering.

Courses 3, 5, 6, 7, are required in the Junior year of the Course in Civil Engineering.

Course 7 is required in the Junior year of the Courses in Mining and Mechanical Engineering.

Courses 8, 9, 10, 11, 12, are required in the Senior year of the Course in Civil Engineering.

Course 13 is required in the Sophomore year of the Course in Agriculture and in the first year of the Short Course in Agriculture.

For facilities see LABORATORIES AND EQUIPMENT.

DRAWING.

1. FREEHAND DRAWING*—Outline drawing from copy and wooden models. Charcoal and crayon drawing from copy and plaster casts.

THREE TERMS—Once a week. Two hours' drawing. Mr. TAYLOR.

Required in the first and second terms of the Freshman year of the Courses in Engineering, and the first term of the Short Mining Course. Elective in the Sophomore year of the Arts, Philosophy and Science Courses.

2. LETTERING—Lectures and practice.

THIRD TERM.—Twice a week (four hours' practice). *Lectures*.—Care and manipulation of draughting instruments. Proper construction of letters. Proper construction of titles. *Practice*—Nine plates of letters and figures.

Assistant Professor BRADFORD, Mr. PALMER, Mr. FRENCH.

Required in the Freshman year of the Courses in Engineering and in the second year of the Short Mining Course.

3. MECHANICAL DRAWING—Lectures, recitations and practice.

FIRST TERM.—Three times a week. Text-book: Faunce's Mechanical Drawing. One hour lecture and recitation. Four hours' practice in drawing sixteen plates.

SECOND TERM.—Five times a week in the Civil Engineering Course. Three times a week in the other Engineering Courses. Text-book: Church's Descriptive Geometry. Two hours' lecture and recitation. Six hours' practice and fifty plates in the Civil Engineering Course. Two hours' practice and twenty plates in the other Engineering Courses.

THIRD TERM.—Three times a week. Text-book: Church's Shades, Shadows and Perspective. One hour lecture and recitation. Four hours' practice in drawing fourteen plates, using the technical colors to represent different materials.

Assistant Professor BRADFORD, Mr. PALMER, Mr. FRENCH.

Required in the Sophomore year of the Engineering Courses and in the first term, second year, of the Short Mining Course.

4. DRAUGHTING AND BLUE-PRINTING—Lectures and practice.

SECOND TERM.—Three times a week (six hours' drawing),

Assistant Professor BRADFORD.

Required in the second year of the Short Mining Course.

5. TECHNICAL DRAWING—Machine Designing and Drawing. Lectures and practice.

FIRST TERM.—Three times a week (six hours practice). Lectures on machine designing. Practice. Designing machine parts, and drawing and blue-printing them ready for construction, showing form and dimensions.

Assistant Professor BRADFORD.

Required in the Junior year of the Courses in Mechanical and Electrical Engineering.

6. TECHNICAL DRAWING.

THIRD TERM.—Five times a week. Lectures on rules and methods for detail drawing, and practice in making same favorably to present the form, dimensions, etc., to the workman in practice. Line shading of drawings.

Professor ROBINSON.

Required in the Junior year of the Course in Mechanical Engineering.

7. PHOTOGRAPHY—Lectures and practice.

FIRST TERM.—Twice a week (four hours' practice). *Lectures*,—Optics of photography; chemistry of photography; exposing and developing; printing; orthochromatic photography; lantern slides; applications of photography. *Practice*.—Out-door photography; interior photography; flash-light photography; copying; lantern slides; printing; instantaneous photography; applications.

THIRD TERM.—Same work as first term.

Assistant Professor BRADFORD.

Required in the Senior year, first term, of the Course in Mining Engineering, in the third term, Senior year, of the Course in Mechanical Engineering, and in the third term, Junior year, of the Course in Civil Engineering.

For facilities see LABORATORIES AND EQUIPMENT.

ELECTRICAL ENGINEERING,

[See PHYSICS AND ELECTRICAL ENGINEERING.]

ENGLISH AND RHETORIC.

I. RHETORIC.

1. SCIENCE OF RHETORIC—Recitations, lectures and readings. Twice a week.

FIRST TERM.—Word and sentence structure. Prescribed readings for the study of diction and figures. Reports.

SECOND TERM.—Paragraph and essay structure. Prescribed readings for rhetorical analysis. Paragraph writing and essays.

THIRD TERM.—Processes of explanation and discussion. Prescribed readings for rhetorical analysis. Essays. Associate Professor DENNEY.

Required in the Freshman year of all four-year courses.

2. ADVANCED RHETORIC—Lectures, readings and discussions. Twice a week.

FIRST TERM.—Principles of style. A study of the stylistic peculiarities of English prose writers. Essays and reports.

SECOND TERM.—Principles of criticism. A study of typical literary forms. Essays and reports on readings.

THIRD TERM.—Principles of literary aesthetics. Literature as a fine art. Essays and reports on assigned topics.

Associate Professor DENNEY.

Required in the Sophomore year of the courses in Arts, Philosophy and Science

3. PRACTICAL RHETORIC—Lectures, readings and discussions. Twice a week.

FIRST TERM.—Principles of style. A study of the literary characteristics and methods of noted writers on technical subjects. Reports.

SECOND TERM.—Principles of construction. Practice in investigation, and in the construction of articles on technical subjects. Essays.

THIRD TERM.—Principles of presentation. Practice in constructing and presenting essays and reports on technical subjects.

Associate Professor DENNEY.

Required of Juniors in Civil Engineering, and of Sophomores in all other courses in Engineering. Elective in the Senior year of the course in Agriculture and in either the Junior or the Senior year of the course in Horticulture and Forestry.

II. ENGLISH PHILOLOGY.

6. ADVANCED COURSE—Lectures, readings and reports. Two hours a week.

Reading of longer texts in Early and Middle English with reports on investigations. Lectures on the Science of Language, on the Principles of the Life and Growth of Language, and on the Science of Phonetics. Introduction to the Science of Comparative Philology and to its methods of investigation.
Associate Professor DENNEY.

Elective to Seniors and Juniors in the Courses in Arts, Philosophy and Science who have credit for course 7 and have had at least one year of German and one year of French.

7. ELEMENTARY COURSE—Recitations and lectures. Twice a week.

Anglo-Saxon, Semi-Saxon and Old English. Prose and poetry. Recitations from Sweet's Anglo-Saxon Primer and Sweet's Anglo-Saxon Reader. Lectures on the Formation and Development of the English Language.
Associate Professor CHALMERS.

Required in the Junior year of the English Course in Philosophy. Required in the Junior year of the Modern Language Course in Philosophy for those students who enter the University with German as their preparatory language. Elective either in the Sophomore or the Junior year of the Arts Course, Latin Course in Philosophy, Science Course, and for those Students in the Modern Language Course in Philosophy who enter with Latin as their preparatory language.

III. ENGLISH LITERATURE.

8. CHAUCER—ENGLISH LITERATURE—Lectures and recitations. Twice a week through the year.

FIRST TERM.—Period of Early Modern English. Morris and Skeat's edition of Chaucer's Prologue and Knight's Tale. Additional tales are read.

SECOND and THIRD TERMS.—A general survey of the whole field of English Literature. Arnold's English Literature, Historical and Critical.

Associate Professor CHALMERS.

Required in the Sophomore year of the Courses in Arts, Philosophy, and Horticulture and Forestry; elective in the Sophomore year of the Course in Science, and in the Senior year of the Course in Agriculture.

9. ENGLISH LITERATURE—Study of Masterpieces. Essays and critiques. Three times a week for one year.

FIRST TERM. } Seminary in English authors from Chaucer to Tennyson.
SECOND TERM. } Representative masterpieces studied: More's Utopia, Spenser's Faery Queen, Bacon's Essays, Milton's Paradise Lost, Walton's Complete Angler, Bunyan's Pilgrim's Progress, Addison's Sir Roger de Coverley, Pope's Essay on Man, Johnson's Rasselas, Burke's Reflections on the French Revolution, Goldsmith's Vicar of Wakefield, Cowper's Task.

Keats's *Hyperion*, Byron's *Childe Harold*, Coleridge's *Ancient Mariner*, Wordsworth's *Excursion*, Ruskin's *Modern Painters*, Thackeray's *Vanity Fair*, George Eliot's *Silas Marner*, Carlyle's *Sartor Resartus*, Tennyson's *In Memoriam*.

THIRD TERM.—Seminary in American Literature. Representative authors studied: Irving, Poe, Bryant, Whittier, Longfellow, Holmes, Hawthorne, Lowell, and Emerson.

Associate Professor CHALMERS.

Elective in the Junior or Senior year of the Courses in Arts, Philosophy, and Science, and in the Junior year of the Course in Horticulture and Forestry.

10. SHAKESPEARE AND THE ENGLISH DRAMA—Lectures, essays and critiques. Three times a week through the year. One lecture a week on the history and development of the English Drama from the Miracle plays to the closing of the theatres. Plays read by class: Marlowe's *Jew of Malta*, Ben Jonson's *Alchemist*, Beaumont and Fletcher's *Philaster*, Fletcher and Shakespeare's *Two Noble Kinsmen*, Webster's *Duchess of Malfi*, Goldsmith's *She Stoops to Conquer*, Sheridan's *School for Scandal*, Browning's *A Blot in the 'Scutcheon*.

Essays and critiques on the plays of Shakespeare. Plays selected: *A Midsummer Night's Dream*, *The Merchant of Venice*, *As You Like It*, *Twelfth Night*, *the Tempest*, *Henry IV.*, *Richard III.*, *Hamlet*, *Macbeth*, *Othello*, *King Lear*, *Julius Cæsar*, and *Coriolanus*.

Associate Professor CHALMERS.

Elective in the Junior or Senior year of the Courses in Arts, Philosophy and Science.

Courses 10 and 11 are given in alternate years.

11. THE ENGLISH BIBLE—BACON—MILTON—Three times a week through the year.

Associate Professor CHALMERS.

Elective in the Junior or Senior year of the Arts, Philosophy, and Science Courses. [Omitted in 1893-94. Courses 10 and 11 are given in alternate years.]

12. ENGLISH LITERATURE OF THE EIGHTEENTH CENTURY.

From the Restoration to the Romantic Movement. Lectures and seminary work. Twice a week through the year.

Associate Professor CHALMERS.

Elective in the Junior or Senior year of the Courses in Arts, Philosophy, and Science, and in the Senior year of the Course in Horticulture and Forestry.

Courses 12 and 13 are given in alternate years.

13. ENGLISH LITERATURE OF THE NINETEENTH CENTURY.

From the beginning of the Romantic Movement to the present time. Lectures and seminary work. Twice a week through the year.

Associate Professor CHALMERS.

Elective in the Junior or Senior year of the Courses in Arts, Philosophy, and Science, and in the Senior year of the Course in Horticulture and Forestry. [Omitted in 1893-94. Courses 12 and 13 are given in alternate years.]

14. SPECIAL ADVANCED STUDY AND RESEARCH.

Competent students may pursue special investigations of selected topics under the personal guidance of the Instructor. Three hours a week through the year. Associate Professor CHALMERS.

Course 14 is open only to graduates, and to Seniors in the Arts, Philosophy, and Science Courses who have earned high rank in English. It cannot be elected without the previous consent of the Instructor. ■

 FRENCH.

[See ROMANCE LANGUAGES.]

GENERAL CHEMISTRY,

1. ELEMENTARY CHEMISTRY—Lectures and recitations.

FIRST TERM.—Four times a week. Chemistry of the non-metals. Norton's Chemistry.

SECOND TERM.—Twice a week. Chemistry of the metals. Norton's Chemistry. Professor NORTON.

Required in the Freshman year of the Course in Science, and in the first year of the Course in Pharmacy; optional in the Freshman year of the Courses in Arts and Philosophy.

2. ELEMENTARY CHEMISTRY—Lectures and recitations.

THIRD TERM.—Four times a week. Chemistry of the carbon compounds. Professor Norton.

Required in the Freshman year of the Course in Science, and in the first year of the Course in Pharmacy; optional in the Freshman year of the Courses in Arts and Philosophy.

3. ANALYTICAL CHEMISTRY—Lectures and laboratory work. Qualitative analysis. Three times a week through the year.

FIRST TERM.—Reactions in the "dry way" and determination of twenty-five unknown substances.

SECOND TERM.—Reactions in the "wet way." Bases.

THIRD TERM.—Same continued. Seventy-five unknown substances. Acids begun. Text-books for the course: O'Brine's Laboratory Guide; Fresenius's Qualitative Analysis; Will's Tables.

Professor NORTON, Mr. MCPHERSON.

Required in the second year of the Course in Pharmacy; elective in the Sophomore or Junior year of the Courses in Arts, Philosophy, and Science.

4. ANALYTICAL CHEMISTRY—Lectures and laboratory work. Three times a week through the year. Quantitative analysis.

FIRST TERM.—Quantitative analysis begun.

SECOND TERM.—Gravimetric analysis of known compounds.

THIRD TERM.—Same, with volumetric analysis and special work. Text-books for the course: Fresenius's Quantitative Analysis; Sutton's Volumetric Analysis.

Professor NORTON.

Professor Norton lectures weekly on the work in hand.

This course must be preceded by Course 3, and is required in the third year of the Course in Pharmacy; elective in the Junior or Senior year of the Courses in Arts, Philosophy, and Science.

5. CHEMISTRY—Lectures and laboratory.

FIRST TERM.—Once a week. Stoichiometry.

SECOND TERM.—Three times a week. Toxicology. Tauner's Outlines of Poisons.

THIRD TERM.—Twice a week. Proximate organic analysis. Prescott's Proximate Organic Analysis.

Mr. MCPHERSON.

Elective in the Science Course; second and third terms required in the third year of the Course in Pharmacy.

6. ANALYTICAL CHEMISTRY.

Advanced Chemistry and research. Ten hours a week through the year.

Professor NORTON, Mr. MCPHERSON.

This course is elective to those students who have had courses 4 and 5. The studies of the year will include ultimate organic analyses, thesis work, and such practical exercises as the student may desire in analyses of water, minerals, and manufactured products.

Reference books: Watt's Dictionary; Gmelin's Handbook; Handwoerterbuch der Chemie, Roscoe and Schorlemmer, Graham-Otto, Plattner; Allen's Commercial Analysis; Prescott's Organic Analysis; Crooke's Select Methods; Mohr's Volumetric Analysis; Fresenius's Zeitschrift; Chemical News.

For facilities see LABORATORIES AND EQUIPMENT.

GEOLOGY.

1. PHYSICAL GEOGRAPHY—Lectures and recitations.

FIRST TERM.—Five times a week. Geikie's Elementary Lessons, supplemented by lectures, map drawing, and the study of geographical models.

Mr. SURFACE.

Required in the first year of the Course in Pharmacy, the Short Course in Agriculture, and the Short Course in Mining.

GENERAL GEOLOGY—Lectures.

FIRST TERM.—Five times a week. Subjects: Cosmical Geology, Lithological Geology, Dynamical and Structural Geology. Books of reference used by students in preparation of their work: Green's Physical Geology, Geikie's Text-book of Geology, Le Conte's Elements of Geology, Hunt's Chemical Geology, Daubree's *Geologie Experimentale*, etc., etc.

SECOND TERM.—Five times a week. Subjects: Paleontological Geology, Historical Geology. Books of reference used by students in preparation of their work: Nicholson's Paleontology, Zittel's *Paleontologie*, Ohio Geological Reports, Paleontology of New York, etc.

Professor ORTON.

Required in the Senior year of the Courses in Science and Mining Engineering, and in the Junior year of the Courses in Civil Engineering, Agriculture, and Horticulture and Forestry; elective in the Senior year of the Courses in Arts and Philosophy.

3. ECONOMIC GEOLOGY—Lectures.

SECOND TERM.—Five times a week. *Subjects:* 1. Economic materials of stratified rocks, clays, limes, cements, coals, iron ores, etc., etc., phosphates, petroleum. 2. Economic materials derived from veins and igneous rocks, gold, silver, copper, mercury, etc., etc. Gems. Books of reference used by students in preparation of their work: Publications of U. S. Geological Survey, State Geological Surveys, Phillip's Ore Mining, etc.

Professor ORTON.

Required in the Senior year of the Courses in Civil and Mining Engineering.

4. ELEMENTARY GEOLOGY—Lectures and recitations.

SECOND TERM.—Five times a week. Text-book: Le Conte's Text-book of Geology. Lectures on Dynamical and Structural Geology.

Professor ORTON.

Required in the Senior year of the Course in Mechanical Engineering, and in the second year of the Short Mining Course.

5. PALEONTOLOGY—Museum work.

Mr. SURFACE.

6. PHYSIOGRAPHIC AND GEOGRAPHIC GEOLOGY.

Courses of study under this head will be organized at the beginning of the next year.

For equipment see MUSEUMS—*Geological Museum*.

GERMAN.

1. ELEMENTARY GERMAN—Five hours a week.

THREE TERMS.—Joynes-Meissner's Grammar.

READING: Storm's Immensee; Riehl's Fluch der Schönheit; Jensen's Die braune Erica; Conversation.

Mr. MESLOH.

Optional in the Freshman year of the Courses in Engineering; required in the Freshman year of the Course in Science for those who have had no German before entrance.

2. SCIENTIFIC READING—Twice a week.

THREE TERMS.—Reading: Gore's Scientific Reader; Cohn's Ueber Bacterien; Helmholtz's Göthe's Wissenschaftliche Studien; Pinner's Gesetze der Naturerscheinungen; Taschenberg's Bilder aus dem Thierleben; Selections from scientific works and periodicals.

Mr. MESLOH.

Required in the Sophomore year of the Courses in Science, Civil Engineering, Mining Engineering, and Mechanical Engineering, for students who have had Course 1. Elective in the Sophomore year for other students in the Course in Science.

3. ELEMENTARY GERMAN—Five hours a week.

THREE TERMS.—Joynes-Meissner's Grammar; Joynes's Reader; Lessing's Minna von Barnhelm; Huss's Goethe's Sesenheim.

Professor EGGERS.

Required in the Freshman year of the Modern Language Course in Philosophy for those students who have entered with Latin as their preparatory language; elective in the Sophomore and Junior years of the Course in Arts and the Latin Course in Philosophy; optional in the Junior year of the Course in Agriculture, and in the Sophomore year of the Course in Horticulture and Forestry.

4. LITERATURE AND COMPOSITION—Three hours a week.

THREE TERMS.—Kluge's Geschichte der deutschen National-literatur, Kluge's Auswahl deutscher Gedichte. Lectures to supplement Kluge are given, Joynes-Meissner's Grammar finished, Harris's German Composition; oral exercises in connection with composition. Students are expected to master the main facts given in Kluge's Geschichte.

Professor EGGERS.

Required in the Modern Language Course in Philosophy, and in the Sophomore year of the Course in Science for those who entered the University with Latin as preparatory language. Elective in the Junior and Senior years of the Course in Arts, the Latin Course in Philosophy, Junior year in the Course in Horticulture and Forestry, and in the Senior year of the Course in Agriculture.

5. GOETHE—Three times a week.

THREE TERMS.—Goethe's Youth and Storm and Stress Period, Die Laune des Verliebten; Die Mitschuldigen; early poems; Goetz von Berlichingen; Werther's Leiden; Faust Parts I and II. German Composition, oral exercises in connection with composition.

Professor EGGERS.

Required in the Modern Language Course in Philosophy; elective in the Senior year of the Course in Arts, the Latin Course in Philosophy, and the Course in Horticulture and Forestry.

6. DEVELOPMENT OF GERMAN POETRY, PROSE AND LANGUAGE; MIDDLE HIGH GERMAN.—Three times a week.

THREE TERMS.—Lectures on development of German poetry, prose and language, Wright's Middle High German Primer, Bartsch's *Das Niebelungenlied*. German Composition and oral exercises.

Professor EGGERS.

Required in the Modern Language Course in Philosophy.

GREEK.

1. ELEMENTARY GREEK—Recitations.

FIRST TERM.—Five times a week. Goodwin's Greek Grammar (Revised edition) and White's First Lessons in Greek (Revised edition).

SECOND TERM.—Five times a week. Grammar and Lessons (to I,VII) continued. Xenophon's *Anabasis* (Kelsey), Book I.

THIRD TERM.—Five times a week. Xenophon's *Anabasis* (Kelsey), Books II and III.

Professor SMITH.

Required in the Freshman year of the Course in Arts.

2. XENOPHON, HERODOTUS, HOMER—Recitations and lectures.

FIRST TERM.—Three times a week. Xenophon's *Memorabilia*; exercises in Greek prose composition.

SECOND TERM.—Three times a week. Herodotus, Book VIII. Epæchs of Greek history (Pennell's Ancient Greece).

THIRD TERM.—Three times a week. Homer's *Odyssey*. Studies in Greek literature.

Professor SMITH.

Required in the Sophomore year of the Course in Arts.

3. GREEK HISTORY, PHILOSOPHY AND ORATORY—Recitations, essays and lectures.

FIRST TERM.—Three times a week. Thucydides, Book VII (Smith). Lectures on Attic history.

SECOND TERM.—Three times a week. Plato's *Apology of Socrates* (Dyer). Essays in Greek philosophy.

THIRD TERM.—Three times a week. Demosthenes's Philippic Orations (Tarbell). Lectures on the Attic orators.

Professor SMITH.

Required in the Junior year of the Course in Arts.

4. EPIC POETRY, DRAMA, SATIRE—Recitations and lectures.

FIRST TERM.—Three times a week. Homer's *Iliad*, the first six books (Seymour or Keep). Lectures on epic poetry.

SECOND TERM.—Three times a week. Sophocles's *Antigone*. Lectures on the Greek drama.

THIRD TERM.—Three times a week. Lucian's *Timon*. Lectures on Greek etymology.

Professor SMITH.

Required in the Senior year of the Course in Arts.

5. ANCIENT ART—Lectures.

FIRST TERM.—Twice a week. The development of ancient architecture in Egypt, Assyria, Persia and Asia Minor.

SECOND TERM.—Twice a week. Greek architecture and sculpture, illustrated from the monuments.

THIRD TERM.—Twice a week. Roman architecture. The beginnings of Mediævalism.

Professor SMITH.

Elective in the Junior or Senior year of the Courses in Arts and Philosophy.

Course 5 is given in alternate years and will not be offered in 1894—95.

HISTORY.

1. MEDIÆVAL HISTORY—Recitations and assigned readings. Twice a week.

THREE TERMS.—Duruy's History of the Middle Ages, and assigned readings on special topics, with a series of introductory lectures on earlier history.

Mr. SIEBERT.

Required in the Sophomore year of the Modern Language Course in Philosophy; elective in the Sophomore year of the Arts, Latin Philosophy, and Science Courses, in the Junior year of the Course in Horticulture and Forestry, and in the Senior year of the Course in Agriculture.

2. MODERN HISTORY, AND HISTORY OF CIVILIZATION—Recitations, lectures and assigned readings. Three times a week.

FIRST TERM. } Modern History. Lodge's History of Modern Europe,
SECOND TERM. } and assigned readings on special topics.

THIRD TERM.—History of European Civilization. Guizot's History of Civilization in Europe, with lectures and assigned topics.

Mr. SIEBERT.

Required in the Junior year of the Latin Philosophy Course; elective in the Junior or Senior year of the Arts, Modern Language Philosophy, Science, and Horticulture and Forestry Courses, and in the Senior year of the Course in Agriculture.

It is advisable, though not required, that this course be preceded by course 1.

3. POLITICAL AND CONSTITUTIONAL HISTORY OF ENGLAND—Recitations, lectures, assigned readings, and topical reports. Three times a week.

THREE TERMS.—Lectures; Ransome's Short History of England; Gardiner's Students' History of England.

Professor KNIGHT, Mr. SIEBERT.

Required in the Senior year of the Latin Course in Philosophy; elective in the Senior year of the Arts, Modern Language Philosophy, Science, Agriculture, and Horticulture and Forestry Courses.

4. POLITICAL AND CONSTITUTIONAL HISTORY OF THE UNITED STATES—Lectures and recitations. Twice a week.

FIRST TERM.—Lectures on the political and constitutional history of the colonies and States to 1789.

SECOND TERM.—Elementary Constitutional Law. Recitations. Cooley's Principles of Constitutional Law.

THIRD TERM.—Political History of the United States, 1789–1890. Johnston's American Politics, supplemented by lectures.

Professor KNIGHT.

Required in the Junior year of the Arts, Latin Philosophy, Agriculture, and Horticulture and Forestry Courses, and for those students in the Modern Language Course in Philosophy who enter with Latin as their preparatory language; required in the Freshman year of the English Course in Philosophy, and for those students in the Modern Language Course in Philosophy who enter with German as their preparatory language; elective in the Sophomore, Junior, or Senior year of the Science Course.

5. HISTORICAL SEMINARY—Two hours a week through the year.

This course is designed to afford the student an opportunity for protracted investigation of a few special subjects in American history, the results of the investigation to be presented in special papers or theses. In addition to the positive information obtained upon his special subjects, the student becomes familiar, by direct handling, with books, documents, and other material for historical work, and with methods of historical investigation.

Professor KNIGHT.

Elective in the Senior year of the Courses in Arts, Philosophy, and Science.

Course 5 must be preceded by Course 4.

6. PERIOD OF THE PROTESTANT REFORMATION—Recitations, lectures, and assigned readings. Three times a week.

FIRST TERM.—Häusser's Era of the Reformation.

Mr. SIEBERT.

Elective in the Junior or Senior year of the Arts, Latin, Modern Language, English, and Science Courses.

Course 6 must be preceded by Course 1 or 2.

7. THE FRENCH REVOLUTION—Recitations, lectures and assigned readings. Three times a week.

SECOND TERM.	}	Fyffe's History of Modern Europe.
THIRD TERM.		

Professor KNIGHT, Mr. SIEBERT.

Elective in the Junior or Senior year of the Arts, Latin, Modern Language, English, and Science Courses.

Course 7 must be preceded by Course 1 or 2.

HORTICULTURE.

1. ELEMENTS OF HORTICULTURE AND FORESTRY—Lectures, and practical work in laboratory, greenhouse, gardens, orchard, ornamental grounds and forest.

FIRST TERM.—Three times a week. General subjects: Location for horticultural work, preparation of soil, draining and irrigation, fertilizers, tools and implements, buildings, etc.

SECOND TERM.—Three times a week. General subjects: Methods of propagation, pruning and training, weeds and injurious insects, fungus diseases, etc.

THIRD TERM.—Twice a week. Practical lessons in germination, seeding, transplanting, budding, grafting, cross-fertilizing, etc.

Professor LAZENBY.

Required in the Sophomore year of the Course in Agriculture, and in Horticulture and Forestry, and in the second year of the Short Course in Agriculture.

2. GENERAL HORTICULTURE—Lectures and practical work.

FIRST TERM.—Five times a week. Pomology and viticulture. Books of reference: Warder's Pomology; Downing's Fruits and Fruit Trees of America; Thomas's American Fruit Culturist; Barry's Fruit Garden; Fuller's Grape Culturist; Bailey's Field Notes on Apple Culture.

SECOND TERM.—Five times a week. Vegetable gardening and seed growing. Books of reference: Henderson's Gardening for Profit; Quinn's Money in the Garden; Brill's Seed Growing; Horticulturist's Rule Book.

THIRD TERM.—Five times a week. Small fruit culture. Books of reference: Fuller's Small Fruit Culturist, and various special works.

Professor LAZENBY.

Required in the Junior year of the Course in Horticulture and Forestry; elective in the Senior year of the Course in Agriculture.

3. ARBORICULTURE, FORESTRY AND LANDSCAPE GARDENING—Lectures and practical work.

FIRST TERM.—Three times a week. Arboriculture. General subjects: Use of trees for shelter, shade and ornament; methods of propagation, culture and management; history of varieties, etc.

SECOND TERM.—Three times a week. Forestry. General subjects: Influence of forests upon soils, crops and climate; value of trees for timber; how to improve existing woodland; establishment and management of plantations of forest trees, etc.

THIRD TERM.—Three times a week. Landscape gardening.

Professor LAZENBY.

Required in the Senior year of the course in Horticulture and Forestry.

4. FLORICULTURE—Lectures and practical work.

FIRST TERM.—Twice a week. Elements of Floriculture. General subjects: Propagation and management of house plants, ferneries, warden cases, climbing vines, flowering bulbs, etc., etc.

SECOND TERM.—Twice a week. Commercial Floriculture. Structure and management of green-houses, etc., etc.

THIRD TERM.—Twice a week. Amateur or home flower and ornamental gardening.

Professor LAZENBY.

Required in the Senior year of the Course in Horticulture and Forestry.

For facilities see LABORATORIES AND EQUIPMENT.

ITALIAN.

[See ROMANCE LANGUAGES.]

LATIN.

1. LIVY, HORACE, CICERO—Recitations. Five times a week.

FIRST TERM.—Livy: Book XXI, or Book XXII, Lord's edition. Review of selected topics in Latin Grammar. Re-translation.

SECOND TERM.—Horace: Odes and Epodes. Prosody. Sight reading.

THIRD TERM.—Cicero: Selected Letters. Roman History.

*Professor DERBY.

Required in the Freshman year of the Course in Arts and Latin Course in Philosophy.

2. LATIN LITERATURE—Selections from representative writers. Recitations and lectures. Five times a week.

FIRST TERM.—Pliny, Selected Letters. Tacitus, *Agricola*. Roman History.

SECOND TERM.—Horace: Satires and Epistles. Roman Literature. Plautus: *Captivi*.

THIRD TERM.—Juvenal: Selected Satires. Latin Hymns.

*Professor DERBY.

Required in the Sophomore year of the Course in Arts and Latin Course in Philosophy.

3. LATIN POETRY—Recitations, essays and lectures. Three times a week, through the year.

Lucretius: Selections. Catullus and the Elegiac Poets.

Preble and Parker's Latin Writing.

Professor DERBY.

Elective in the Junior or Senior year of the course in Arts and Latin Course in Philosophy.

Course 3 must be preceded by Courses 1 and 2.

*During Professor Derby's absence on leave, Mr. Elden has charge of Course 1, and Mr. Emery of Course 2.

4. PHARMACEUTICAL LATIN—Recitations.

FIRST TERM. } Robinson's Latin Grammar of Pharmacy and Medicine. Five
 SECOND TERM. } times a week.

THIRD TERM.—Two hours a week.

Mr. DYE.

Required in the first year of the Course in Pharmacy.

MATHEMATICS.

1. ALGEBRA—Recitations.

FIRST TERM.—Five times a week. Venable's Easy Algebra.

Mr. ARNOLD.

Required in the first year of the Short Course in Agriculture.

2. ALGEBRA—Recitations.

THREE TERMS.—Five times a week. Wentworth's Elements of Algebra,
 completed. Assistant Professor SPERR.

Required of students in the first year of the Short Course in Mining, and is a special class and Course for such students only.

3. GEOMETRY—Recitations.

SECOND TERM.—Plane Geometry. Wentworth's Geometry. Mr. ARNOLD.

Required in the first year of the Short Course in Agriculture.

4. GEOMETRY AND TRIGONOMETRY—Recitations. Five times a week.

FIRST TERM.—Plane Geometry. Wentworth's Geometry.

SECOND TERM.—Solid Geometry. Wentworth's Geometry.

THIRD TERM.—Plane Trigonometry. Lock's Elementary Trigonometry.

Mr. ARNOLD.

Required in the first year of the Short Course in Mining.

5. TRIGONOMETRY, HIGHER ALGEBRA, ANALYTICAL GEOMETRY—
 Recitations. Three times a week.

FIRST TERM.—Analytical and Spherical Trigonometry. Lock's Elementary
 Trigonometry, completed; Lock's Higher Trigonometry, with notes on
 Spherical Trigonometry.

SECOND TERM.—Higher Algebra and Theory of Equations. Wentworth's
 College Algebra, chapters 12 to 31.

THIRD TERM.—Analytical Geometry. Charles Smith's Conic Sections.

Assistant Professor McCOARD, and Mr. LORD.

Required in the Freshman year of the Course in Science; optional in the Freshman year of the Courses in Arts and Philosophy.

6. TRIGONOMETRY, HIGHER ALGEBRA, ANALYTICAL GEOMETRY—
Recitations. Five times a week through the year.

FIRST TERM.—Trigonometry. Lock's Elementary Trigonometry; Lock's Higher Trigonometry.

SECOND TERM.—Higher Algebra and Theory of Equations (Wentworth's College Algebra, chapters 12 to 31), three times a week; Analytical and Spherical Trigonometry, twice a week (Lock's Higher Trigonometry, with notes on Spherical Trigonometry).

THIRD TERM.—Analytical Geometry. Charles Smith's Conic Sections.
Professor BOHANNAN, Assistant Professor McCOARD, Mr. ARNOLD, Mr. LORD.

Required in the Freshman year of the Courses in Engineering; the second term elective in the Courses in Arts and Philosophy.

7. ANALYTICAL GEOMETRY AND CALCULUS—Lectures and recitations.
Five times a week through the year.

FIRST TERM.—Analytical Geometry continued (Charles Smith's Conic Sections); Calculus begun (Greenhill's Calculus).

SECOND AND THIRD TERMS.—Calculus continued.
Professor BOHANNAN, Mr. LORD.

Required in the Engineering Courses; elective in the Arts, Philosophy and Science Courses.

8. LEAST SQUARES—Lectures and recitations.

FIRST TERM.—Three hours a week during two-thirds of the term. Johnson's Theory of Errors and Least Squares. Professor BOHANNAN.

Required in the Junior year of the Courses in Civil, Mechanical, and Electrical Engineering; elective in Junior or Senior year of Arts, Philosophy and Science Courses.

9. ADVANCED MATHEMATICS—Lectures and recitations. Five times a week through the year. Topics will be changed from year to year to meet the wishes of the students. Selections may be made from the following courses: (a) Advanced Calculus (Houel); (b) Differential Equations (Johnson, Forsythe, Craig); (c) Higher Plane Curves (Salmon); (d) Advanced Analytical Geometry (Casey, Salmon); (e) Analytical Geometry of three dimensions (Chas. Smith, Frost, Salmon); (f) Theory of Equations (Burnside and Panton); (g) Modern Higher Algebra; (h) Modern Geometry (Cremona, Reye, Steiner, Von Staudt, Chasles); (i) Determinants (Muir); (j) Elliptic Functions (Durege, Hermite, Greenhill, Briot and Bouquet); (k) General Theory of Functions; (l) Potential-Function (Clausius, Riemann, Dirichlet, Peirce); (m) Mathematical Theory of Electricity (Mascart and Joubert); (n) Higher Geodesy (Clarke, Helmert, Jordan); (o) Spherical Harmonics (Ferrers, Heine); (p) Mathematical Optics; (q) Calculation of Orbits.

Professor BOHANNAN, Mr. LORD.

Elective in the Courses in Arts, Philosophy, and Science.

10. ADVANCED MATHEMATICS—Lectures and recitations five times a week through the year. A continuation of Course 9. Professor BOHANNAN.

Elective in the Senior year of the Courses in Arts, Philosophy and Science.

MECHANICAL ENGINEERING.

1. ELEMENTARY MECHANICAL LABORATORY.

THREE TERMS.—From three to five times a week. Exercises preparatory to pattern making in wood. Exercises in smith work, including the elementary operations of the blacksmith, such as drawing, upsetting bending, punching, welding; in moulding and casting, including sand moulds, cores and casting in iron and brass; in chipping and filing, in which a good number of forms are executed by cutting and filing at the bench; in hand turning in iron and brass in the hand lathe; in engine lathe work, in turning and fitting; in drilling and boring.

Professor ROBINSON, Mr. HAINES and Mr. COMBS.

Required in the Courses in Mechanical and Electrical Engineering, and portions of it in the Courses in Agriculture, Horticulture and Forestry, and Mining Engineering.

2. ADVANCED MECHANICAL LABORATORY.

THREE TERMS.—From three to five times a week.

An advanced course in exact metal work, including grinding and measuring as in producing accurate standard plugs and rings; oil testing; dynamometric measurement; use of steam engine indicator; testing of materials of engineering efficiency of boilers and engines; experiments in flow of fluids; testing of steam plants.

Professor ROBINSON.

Required in the Course in Mechanical Engineering.

3. MECHANISM.

FIRST TERM.—Twice a week, and,

SECOND TERM.—Five times a week. Lectures on the principles of elementary combinations of mechanism.

THIRD TERM.—Four times a week. Accurate laying out of a movement, designing and constructing of same in material.

Professor ROBINSON, Mr. HAINES.

Required in the Junior year of The Course in Mechanical Engineering; the first and second terms required in the Course in Electrical Engineering.

4. INVENTION DESIGNING AND DRAWING.

FIRST TERM.—Three times a week. Lectures on machine designs and original designing of machine parts, and on invention of machines, and a course of five or more original inventions, and parts fully designed and drawn ready for construction.

Professor ROBINSON, Assistant Professor BRADFORD.

Required in the Senior year of the Course in Mechanical Engineering.

5. INVENTION AND DESIGNING.

THIRD TERM.—Five times a week. A second course of invention, designing of some machine, and detailing and drawing of same complete, as in office work practice. A subject is chosen which involves the necessity of calculations as based on most of the principles previously taught in the course.

Professor ROBINSON.

Required in the Senior year of the Course in Mechanical Engineering.

6. ANALYTICAL MECHANICS.

FIRST AND SECOND TERMS.—Five times a week. Lectures accompanied by Bowser's Mechanics, including statics and kinetics. Professor ROBINSON.

Required in the Junior year of the Courses in Engineering.

7. STRENGTH OF MATERIALS.

THIRD TERM.—Five times a week. 1. Lectures and Wood's book on Elastic Resistance to tension, compression, flexure, torsion. 2. Lectures and text-book on Ultimate Resistance to Rupture by tension, compression, flexure, torsion. 3. Lectures on allowed maximum-stress in structures, and the various modes of determining it, including Factor of Safety, Absolute Modulus of Safety, Rational Limit of Safety, and Wohler's Laws. 4. Two weeks of the term. Lectures on hydraulics; on flow of water through orifices, weirs, pipes, streams, and the gauging of streams. Adaptation of formulas to flow of gases at constant density. Professor ROBINSON.

Required in the Junior year of the Courses in Engineering.

8. THERMODYNAMICS.

FIRST TERM.—Five times a week. Lectures on the action of heat. General equations, isothermal, adiabatic, and isodiabatic lines. Indicator diagrams of perfect engines. Rankine and Wood's Thermodynamics serves as accompaniment. Flow of gases through pipes and orifices under various laws of varying density. Professor ROBINSON.

Required in the Senior year of the Mechanical Engineering and Electrical Engineering Courses.

9. PRIME MOVERS.

SECOND TERM.—Five times a week.

1st. Lecture on heat engines, including hot air, steam, and gas engines.

2d. Water motors, including impulse wheels, turbines, breast and overshot wheels, water engines, wind wheels. Rankine's Prime Movers and Wood's Thermodynamics in accompaniment.

3d. Lectures on valve gears, governors, fly-wheels, and fluctuation of speed, counterbalancing, quiet running and economy of engines.

Professor ROBINSON.

Required in the Mechanical and Electrical Engineering Courses.

10. MACHINERY AND MILLWORK.

THIRD TERM.—Five times a week. Lectures on efficiency of elementary combinations of machinery, strength, endurance, friction, shock, adaptation of materials, fly-wheels for machines, transmission of power and machinery for the same. Rankine's Machinery and Millwork in accompaniment.

Professor ROBINSON.

Required in the Mechanical and Electrical Engineering Courses.

For facilities see LABORATORIES AND EQUIPMENT.

METALLURGY.

1. MINERALOGY—Lectures.

SECOND TERM.—Three times a week. With references to Dana's Manual of Mineralogy and Lithology as a text book. Students required to keep notes, and to study specimens in the collection of minerals. A short introductory course is given on crystallography, illustrated by wooden models.

Professor LORD.

Required in the Freshman year of the Course in Science, and in the first year of the Course in Pharmacy; optional in the Freshman year of the Courses in Arts and Philosophy.

2. MINERALOGY—Lectures.

THIRD TERM.—Three times a week. Similar to Course 1, above, but more practical, and arranged so as to be preparatory to the determinative mineralogy (Course 3.)

Professor LORD.

Required in the Freshman year of the Courses in Civil and Mining Engineering.

3. DETERMINATIVE MINERALOGY.

THIRD TERM.—Three times a week. Laboratory course in practical determination of minerals by physical and chemical tests. Brush's Determinative Mineralogy is used as a manual. Each student is furnished with a set of apparatus, and works under the instructor's inspection.

Professor LORD.

Required in the Junior year of the Course in Mining Engineering.

4. METALLURGY—Lectures.

FIRST TERM. } Five times a week. A course of lectures upon fuel and
SECOND TERM. } its uses, iron and steel, copper, lead, gold and silver,
their properties, tests, ores and details of the modes of reduction. Students
are required to take notes and also to study references to standard works
and journals.

Professor LORD.

Required in the Junior year of the Course in Mining Engineering, and in the Senior year of the Course in Mechanical Engineering.

5. METALLURGICAL LABORATORY—Lectures and laboratory work.

THREE TERMS.—Laboratory practice in the analysis of iron and steel, iron ores, fuels, clays, etc., by the most approved methods as practiced in the technical laboratories of metallurgical works.

Professor LORD.

Required in the Sophomore year of the Course in Mining Engineering; elective in the Junior year of the Course in Science.

Course 5 must be preceded by Agricultural Chemistry, Courses 1 and 3, or by General Chemistry, Course 3.

6. ASSAYING—Laboratory work.

SECOND TERM.—Work in the assaying of gold, silver, and lead ores by furnace methods. Oral instruction, with reference to standard books on assaying.

Professor LORD.

Required in the Junior year of the Course in Mining Engineering.

7. METALLURGICAL CONSTRUCTION.

FIRST TERM.—Three hours a week. Practice in the designing of furnaces and other metallurgical machinery, including detail drawings and estimates.

Professor LORD.

Required in the Senior year of the Course in Mining Engineering.

8. ORE DRESSING—Lectures.

THIRD TERM.—Five times a week. Instruction in the methods of concentrating and enriching ores by mechanical means. Lectures with reference to Rittinger's *Auf Bereitung*, Callon's *Cours d'Exploitation des Mines*, Kunhardt's Ore Dressing, and various papers in technical journals.

Professor LORD.

Required in the Senior year of the Course in Mining Engineering.

9. MINERAL CHEMISTRY—Lectures and laboratory practice.

FIRST TERM.—Five hours a week. A brief course in elementary chemistry, taught partly by lectures and partly by laboratory practice of a simple character.

SECOND TERM.—Two hours a week.

THIRD TERM.—Five hours a week. The second and third terms are devoted to lectures upon fire-damp, mine explosions, explosives, boiler waters, poisonous gases, iron ores, iron and steel, their properties and modes of manufacture, coal and coke, etc.

Professor LORD.

Required in the second year of the Short Course in Mining.

10. PLANS AND SPECIFICATIONS.

THIRD TERM. Five hours a week. Each student is required to make plans, drawings, and estimates for some special metallurgical or mining plant assigned him by the professor in charge. He also makes a report upon the process involved, and an estimate of the probable cost of products, etc.

Professor LORD.

Required in the Senior year of the Course in Mining Engineering.

For facilities see LABORATORIES AND EQUIPMENT.

MINE ENGINEERING.

1. MINE SURVEYING—Lectures and field practice.

FIRST TERM.—Five hours a week. This is similar to Course 4, but more elementary. The same book is used. The students have more practice in the drawing room.

Assistant Professor SPERR.

Required in the second year of the Short Course in Mining.

2. VENTILATION AND HAULAGE.

SECOND TERM.—Five hours a week. Lectures are of an elementary character, illustrated by experiments and maps of mines and models when possible, tests by safty lamps and anemometers, and solution of problems of air distribution in coal mines. Assistant Professor SPERR.

Required in the second year of the Short Course in Mining Engineering.

3. MINE OPERATING.

THIRD TERM.—Five hours a week. A course of lectures and practical instruction in mine book-keeping and accounts, cost of working, etc., particularly adapted to Ohio coal mining. Assistant Professor SPERR.

Required in the second year of the Short Course in Mining.

4. MINE SURVEYING.

FIRST TERM.—Five hours a week. Field practice in the use of instruments for surface and underground surveys. Full notes are taken, and maps and plans made in the drawing-room. Davie's Surveying, by Van Amringe, is used as a text-book. Assistant Professor SPERR.

Required in the Junior year of the Course in Mining Engineering.

5. MINING ENGINEERING—Lectures.

THREE TERMS. Five hours a week. Mining operating, mining machinery, ventilation, shaft sinking, working out deposits, etc. Constant reference is required to the standard works and to the leading technical journals, with practice in designing mine plants, draughting, and estimates.

Assistant Professor SPERR.

Required in the Senior year of the Course in Mining Engineering.

MILITARY SCIENCE AND TACTICS.

Lieutenant Wilson, U. S. A.

This department is under the charge of an officer of the regular army, who is specially detailed for the purpose. The course of instruction is both practical and theoretical, and is given by means of a systematic drill, supplemented by lectures and recitations, and is so arranged as to occupy five hours per week throughout the year. For purposes of drill, all students enrolled in the department are organized in a battalion, the officers of which are selected from those students who have shown special proficiency in the work of the department. Officers receive commissions and non-commissioned officers warrants, issued by the University. A military band has been organized in connection with this department, and is supplied with instruments belonging to the University.

The practical course in infantry embraces all the movements prescribed by the drill regulations of the U. S. Army applicable to a battalion. Instruction in

artillery embraces such portions of the United States drill regulations as pertain to the formation of detachments, manual of the piece, mechanical maneuvers, aiming drill, and saber exercise. Instruction also includes duties of sentinels, the various ceremonies performed by troops, and military signaling. The theoretical instruction includes a systematic and progressive course in the drill regulations of the U. S. Army, the preparation of the usual reports and returns pertaining to a company, the organization and administration of the U. S. Army and the elementary principles governing in the art of war.

The equipment of the department consists of three hundred Springfield cadet rifles and sets of infantry equipments, two 3-inch rifles, sixteen officers' swords and belts, eighteen sabers and belts, also the necessary equipment for instruction in signaling and instruments for the band.

The U. S. Ordnance Department furnishes an annual allowance of one hundred blank cartridges and three hundred friction primers for the 3-inch rifles, one thousand rounds of ball and one thousand rounds of blank cartridges for cadet rifles.

PHARMACY.

1. PHARMACY—Lectures and laboratory work.

FIRST TERM.—Lectures three times a week. Remington's Practice of Pharmacy. General pharmaceutical processes.

SECOND TERM.—Lectures twice a week. Laboratory practice daily. United States pharmacopœia, officinal preparations.

Associate Professor KAUFFMAN.

Required in second year of Courses in Pharmacy and Veterinary Medicine.

2. PHARMACY—Lectures and laboratory work.

THIRD TERM.—Lectures twice a week. Laboratory practice daily, the dispensaries, officinal preparations. Associate Professor KAUFFMAN.

Required in the second year of Courses in Pharmacy and Veterinary Medicine.

3. PHARMACY—Lectures and laboratory work.

FIRST TERM.—Lectures twice a week. Laboratory practice daily. Pharmaceutical chemistry. Remington's Practice of Pharmacy. Unofficinal preparations. The National formulary.

SECOND TERM.—Lectures once a week. Laboratory practice three times a week. Extemporaneous pharmacy, prescription practice.

THIRD TERM.—Lectures twice a week. Dispensing practice daily. Prescription practice daily.

Associate Professor KAUFFMAN.

Required in the third year of the Course in Pharmacy.

For facilities see LABORATORIES AND EQUIPMENT.

PHILOSOPHY.

1. PSYCHOLOGY—Recitations, discussions and lectures. Three times a week.

FIRST TERM.—The Senses and the Intellect. Murray's Handbook of Psychology.

SECOND TERM.—The Feelings and the Will. Murray's Handbook of Psychology.

Assistant Professor COLER.

Required in the Junior year of the Courses in Arts, Philosophy and Science; elective in the Senior year of the Course in Agriculture, and in the Junior or Senior year of the Course in Horticulture and Forestry.

2. ETHICS—Recitations, discussions, and lectures. Three times a week.

THIRD TERM.—Cutler's Beginnings of Ethics. Assistant Professor COLER.

Required in the Junior year of the Courses in Arts, Philosophy and Science; elective in the Senior year of the Course in Agriculture, and in the Junior or Senior year of the Course in Horticulture and Forestry.

3. LOGIC—Recitations, discussions and praxis. Three times a week.

FIRST TERM.—The elements of logic, deductive and inductive. Hyslop's Elements of Logic.

SECOND TERM.—Inductive logic. Fowler.

Assistant Professor COLER.

Required in the Senior year of the Courses in Arts and Philosophy; elective in the Senior year of the Courses in Science and Horticulture and Forestry.

4. HISTORY OF PHILOSOPHY—Recitations, discussions and lectures.

THIRD TERM.—Lectures on ancient philosophy and recitations in modern philosophy. Schwegler's History of Philosophy.

Assistant Professor COLER.

Required in the Senior year of the Courses in Arts and Philosophy; elective in the Senior year of the Courses in Science and Horticulture and Forestry.

5. RECENT PHILOSOPHY—Readings and discussions. Twice a week for a year.

Reading and discussion of leading books and authors. Especial attention is given to the relations of philosophy to science, and the doctrine of evolution. A theme is required once a term from each student.

President SCOTT.

Elective in the Senior year of the Courses in Arts, Philosophy and Science.

6. MASTERPIECES—Representative works of ancient and modern philosophers critically studied. Essays and discussions. Three times a week through the year. President SCOTT.

Elective in the Senior year of the Courses in Arts, Philosophy and Science.

7. LOGIC—Recitations and discussions. Twice a week.

FIRST TERM—Jevons's Lessons in Logic. Assistant Professor COLER.

Required in the Freshman year of the English Course in Philosophy.

8. PSYCHOLOGY—An elementary course. Recitations and discussions. Twice a week.

SECOND AND THIRD TERMS—James' Psychology, Brier Course, with readings and discussions. Assistant Professor COLER.

Required in the Freshman year of the English Course in Philosophy.

9. ETHICS—An elementary course. Recitations and discussions. Three times a week, first term. Assistant Professor COLER.

Required in the Sophomore year of the English Course in Philosophy.

10. HISTORY OF PHILOSOPHY.

SECOND AND THIRD TERMS—A continuation of Course 9.

Assistant Professor COLER.

- 11 and 12—ADVANCED WORK—The particular subjects will be determined from year to year. Those students who elect Philosophy as their major study will be required to devote to these courses at least five hours a week through the Junior and Senior years. Other Juniors and Seniors who elect Philosophy will give two hours a week to similar but more restricted courses. Courses 11 and 12 will be given in alternate years. President SCOTT.

PHYSICS AND ELECTRICAL ENGINEERING.

I. PHYSICS.

1. ELEMENTARY PHYSICS—Recitations and lectures.

FIRST TERM.	{	Five hours a week. An experimental treatment of the elements of physics. Gage's Elements, supplemented by lectures.	MR. BOYD.
SECOND TERM.			

Required in the first year of the Course in Pharmacy, Short Course in Agriculture, and Short Course in Mining.

2. PHYSICS—Lectures and recitations.

FIRST TERM.—Three times a week. Mechanics and heat.

SECOND TERM.—Three times a week. Electricity and magnetism.

THIRD TERM.—Three times a week. Sound and light. Anthony and Brackett's Physics.

Professor THOMAS.

Required in the Sophomore year of the Courses in Science, Civil Engineering, Mechanical Engineering and Electrical Engineering, and in the Junior year of the Course in Mining Engineering; elective in the Sophomore year of the Courses in Arts and Philosophy, and in the Senior year of the Course in Agriculture.

3. PHYSICS.

THREE TERMS.—Twice a week. Extension of Course 2, with practice in solution of problems.

Professor THOMAS AND MR. BOYD.

Required in the Sophomore year of the Course in Electrical Engineering.

4. ELECTRICITY AND MAGNETISM—Lectures and recitations.

FIRST TERM.—Three times a week. Cumming's Electricity. Mascart and Joubert's Electricity and Magnetism. Fleming's Alternate Current Transformer. Ewing's Magnetism.

Professor THOMAS.

Required in the Junior year of the Course in Electrical Engineering.

5. PHYSICAL LABORATORY.

SECOND TERM.—Monday, Tuesday and Wednesday, 1:30 to 4:30 P. M. Elementary manipulation. Length, mass and time measurement. Work in density, elasticity, etc. Work in heat begun.

THIRD TERM.—Monday, Tuesday and Wednesday, 1:30 to 4:30 P. M. Heat continued. Electricity and Magnetism. Text: Stewart and Gee's Practical Physics. Books of reference: Pickering, Kohlrausch, Glazebrook and Shaw, Ayrton and others.

Professor THOMAS, MR. BOYD AND MR. BROWN.

Required in the Sophomore year of the Course in Electrical Engineering.

6. PHYSICAL LABORATORY—Lectures and laboratory work.

FIRST TERM.—Mondays and Tuesdays, 1:30 to 4:30 P. M.

SECOND TERM. { Mondays, Tuesdays and Wednesdays, 1:30 to 4:30 P. M.

THIRD TERM. { Theory and practice of magnetic and electrical measurement, including the testing and standardizing of instruments; conductivity of conductors; insulation resistance, and capacity of insulated conductors and cables; temperature co-efficients; commercial measuring

and testing instruments, etc. Strength and distribution of magnetic fields magnetic moments, permeability, etc. Work in light, including optical constants; spectroscopy; photometry of gas, electric, and other lights, etc.

Professor THOMAS.

Required in the Junior year of the Course in Electrical Engineering.

7. PHYSICAL LABORATORY.

THREE TERMS.—Monday, Tuesday and Wednesday, 1:30 to 4:30 P. M.

Professor THOMAS, MR. BOYD AND MR. BROWN.

Required in Civil and Mechanical Engineering Courses; elective in the Junior or Senior year of the Courses in Arts, Philosophy and Science.

Course 7 must be preceded by Course 2.

8. PHYSICAL LABORATORY.

THREE TERMS.—Two days per week. 1:30 to 4:30 P. M.

Professor THOMAS, MR. BOYD AND MR. BROWN.

Elective in the Sophomore or Junior year of the Courses in Arts, Philosophy and Science.

Course 8 must be preceded or accompanied by Course 2.

9. PHYSICAL LABORATORY.

THREE TERMS.—Five hours. A second year's work in physical laboratory.

Professor THOMAS.

Elective in the Senior year of the Courses in Arts, Philosophy, and Science.

Course 9 must be preceded by Course 7.

The work in the Physical Laboratory begins with exercises in length, mass and time measurements, making use of scales, tapes and bars, micrometer screws, micrometer microscopes, the dividing engine, the cathetometer, the balance, chronometers, chronoscopes, etc. This course is intended to give the student facility in the use of instruments, and knowledge of the theory of their construction and adjustment. The determination of various physical constants follows, with elementary exercises in heat, light, electricity and magnetism, after which the student takes up such advanced work as his taste and skill permit. The experimental work is accompanied by instruction in methods and in the discussion of results.

II. ELECTRICAL ENGINEERING.

1. ELECTRICAL ENGINEERING.—Lectures.

FIRST TERM.—Twice a week. Telephone and telegraph. Theory and practice.

Professor THOMAS.

Required in the Senior year of the Course in Electrical Engineering.

2. ELECTRICAL ENGINEERING.—Lectures.

THREE TERMS.—First and third terms three times a week, second term five times a week. Theory of dynamo-electric machinery, including direct current and alternating current generators and motors; methods of regulation and control; circuits, lamps and auxiliary apparatus; storage batteries; applications of electricity to street car and mine working; design, construction and management of plant, central and isolated; specifications and contracts; law of contracts; rights and liabilities of electric companies, etc.

Professor THOMAS, Assistant Professor GLADSON.

Required in the Senior year of the Course in Electrical Engineering.

3. TECHNICAL DRAWING.

THREE TERMS.—First and second terms three times a week, third term five times a week. Working drawings of electrical apparatus designed by the student; station, circuit, machine and other technical drawing. Blue-printing, etc.

Assistant Professor GLADSON.

Required in the Senior year of the Course in Electrical Engineering.

4. ELECTRICAL LABORATORY.

THREE TERMS.—Thursday and Friday, 1:30 to 4:30 P. M. A full experimental course in the handling and testing of steam and gas engine dynamos, motors, storage batteries, circuits, instruments, etc. Special courses are given, suited to the preparation and object of the student.

Professor THOMAS, Assistant Professor GLADSON.

Required in the Senior year of the Course in Electrical Engineering.

5. ELECTRICAL ENGINEERING.

THREE TERMS.—Two days per week—1:30 to 4:30 P. M. A special course, with work in physical and electrical laboratories.

Assistant Professor GLADSON.

Required in the Senior year of the Course in Mining Engineering.

For facilities see LABORATORIES AND EQUIPMENT.

PHYSIOLOGY.

1. HUMAN ANATOMY AND PHYSIOLOGY.—Lectures, recitations, and laboratory work.

THREE TERMS.—Lectures, recitations, and demonstrations, Monday, Wednesday, and Friday. Text-book; Martin's Human Body: or Foster.

Professor BLEILE.

Required in the Sophomore year of the Courses in Science, Agriculture, and Horticulture and Forestry, in the first year of the Course in Veterinary Medicine, and in the second year of the Course in Pharmacy; elective in the Sophomore or Junior year of the Courses in Arts and Philosophy.

2. HUMAN ANATOMY AND PHYSIOLOGY—Lectures, recitations, and demonstrations.

SECOND TERM.—Five hours a week. Martin's Briefer Course.

Professor BLEILE.

Required in the second year of the Short Course in Agriculture.

3. PHYSIOLOGICAL LABORATORY—Monday and Tuesday, 1:30 to 4:30 P. M.

FIRST TERM.—The use of apparatus, and methods of demonstration.

SECOND TERM.—Vertebrate dissection and methods of bacteriological study.

THIRD TERM.—Physiological chemistry.

Professor BLEILE and Mr. MORREY.

Elective in the Junior or Senior year of the Courses in Arts, Philosophy, and Science.

4. HISTOLOGY—Laboratory. Tuesday, Wednesday, and Thursday, 1:30 to 4:30 P. M.

FIRST TERM.—Students become familiar with the use of the microscope and its accessories, with test objects, drawing, measuring, preparing reagents, staining and mounting sections, and with the histology of simple tissues.

SECOND TERM. } The study of tissues is continued, with practice in harden-
THIRD TERM. } ing and imbedding, and sectioning.

Text-book recommended, Shæfer's Essentials of Histology, or Klein's Elements with the manuals of Rauvier, Stirling, and others at hand for reference.

Professor BLEILE and Mr. MORREY.

Required in the Course in Veterinary Medicine; elective in the Junior or Senior year of the Courses in Arts, Philosophy, and Science.

5. MICROSCOPY—Laboratory.

THIRD TERM.—Two hours a week. Application of the microscope to pharmacognosy.

Professor BLEILE and Mr. MORREY.

Required in the second year of the Course in Pharmacy.

For facilities see LABORATORIES and EQUIPMENT.

POLITICAL SCIENCE.

1. POLITICAL ECONOMY—Recitations and lectures. Twice a week.

FIRST AND SECOND TERMS—The Elements and Principles of the Science. Walker's Political Economy.

THIRD TERM—Discussion of practical problems of industrial society.

Professor KNIGHT.

Required in the Junior year of the Arts, Latin Philosophy, and Science Courses, in the Senior year of the Modern Language Philosophy Course, and in the Sophomore year of the English Philosophy Course; elective in the Senior year of the Courses in Agriculture, and Horticulture and Forestry.

2. **ADVANCED ECONOMICS AND FINANCE**—Lectures, recitations and investigations. Twice a week.

FIRST TERM—Open Questions in Political Economy. Lectures embracing a discussion of immigration, railroad control, etc.

SECOND TERM—Industrial and Social Reforms. Lectures on the labor problem, socialism, charities, etc.

THIRD TERM—(a) The Principles of the Science of Finance, or, at the option of the class, (b) The History of Economic Thought. Text-book, Ingram's History of Political Economy.

Professor KNIGHT.

Elective in the Senior year of the Arts, Latin Philosophy and Science Courses.
Course 2 must be preceded by Course 1

3. **INTERNATIONAL LAW**—Recitations and lectures. Twice a week.

FIRST TERM—Principles of International Law. Gallaudet's International Law, and assigned readings.

SECOND TERM—History of Treaties. Lectures on the leading treaties of modern times.

Professor KNIGHT.

4. **MUNICIPAL GOVERNMENT**—Lectures and investigations.

THIRD TERM—Municipal Government. Lectures on the development and status of modern municipalities, and a comparative study of recent American municipal charters.

Professor KNIGHT.

Courses 3 and 4 are elective in the Junior or Senior year of the Arts, Philosophy and Science Courses.

ROMANCE LANGUAGES.

I. FRENCH.

1. **ELEMENTARY FRENCH**—Recitations. Written exercises. Oral practice.

FIRST TERM—Five times a week. Whitney's Practical French Grammar and Super's Preparatory French Reader.

SECOND TERM—Five times a week. Grammar (Part I) and Reader finished. Super's Readings from French History.

THIRD TERM—Five times a week: Super's Readings continued. Sandeau: *Mademoiselle de la Seiglière*.

Associate Professor BOWEN, Mr. ELDEN.

Required in the Freshman year of the Courses in Philosophy and Science; optional in the Junior year of the Course in Agriculture, in the Sophomore year of the Course in Horticulture and Forestry, and in the Freshman year of the Courses in Engineering; elective in the Junior year of the Course in Arts.

2. **PROSE, LYRICS AND DRAMA**—Recitations and lectures, with prose composition and oral drill. Lectures on the literature of the seventeenth century in France; comparison of the classic and romantic drama.

FIRST TERM—Twice a week: Fontaine's *Historiettes Modernes*, Tome II.
Once a week: Chardenal's French Exercises for Advanced Pupils, Part I.

SECOND TERM—Twice a week: Bowen's Introduction to Modern French Lyrics; Corneille: *Horace*. Once a week: Chardenal's Exercises, Part I. finished.

THIRD TERM—Three times a week. Victor Hugo: *Hernani*. Private reading. Exercises in conversation.

Associate Professor BOWEN.

Required in the Sophomore year of the Courses in Philosophy; elective in the Senior year of the Courses in Arts and Agriculture, and in the Junior year of the Course in Horticulture and Forestry.

3. SCIENTIFIC READING—Recitations.

FIRST TERM—Twice a week. Luquiens's French Prose of Popular Science.

SECOND TERM—Twice a week. Same.

THIRD TERM—Twice a week. Tissandier: *Les Fossiles*, or *La Houille*.

Mr. ELDEN.

Required in the Sophomore year of the Course in Science; optional in the Sophomore year of the Courses in Civil, Mining and Mechanical Engineering.

4. ADVANCED COURSE—Recitations and lectures. Prose composition. Study of idioms. Conversational practice. Dictation. Lectures on the history of French comedy; history of the French language; principles underlying sign and sound change in French.

FIRST TERM—Twice a week. Daudet: *Contes*. Gautier's Scenes of Travel. Private reading. Once a week. Chardenal's French Exercises, Part II.

SECOND TERM—Three times a week. Molière: *Le Misanthrope*, *L'Avare*, Beaumarchais: *Le Barbier de Séville*. Private reading: Molière: *Le Médecin malgré lui*; *Les Précieuses Ridicules*.

THIRD TERM—Twice a week: Clédat's *Morceaux choisis des auteurs français du moyen âge*; or Racine: *Andromaque*, *Athalie*, *Polycкте*. Once a week: Composition.

Associate Professor BOWEN.

Required in the Junior year of the Modern Language Course in Philosophy; elective in the Junior year of the Latin Course in Philosophy, and in the Senior year of the Course in Horticulture and Forestry.

II. ITALIAN.

[1. ITALIAN—Grammar and Reading. Recitations.

FIRST TERM—Twice a week. Grandgent's Italian Grammar and Italian Composition. De Amicis: *Alberto*.

SECOND TERM—Twice a week. Goldoni: *Commedie Scelte*.

THIRD TERM—Twice a week. Dante: *Inferno*.

Associate Professor BOWEN.

Elective in the Senior year of the Course in Arts, and in the Junior or Senior year of the Courses in Philosophy and Science.

Course 1 in Italian must be preceded by Course 1 in French.

This course is given biennially and will not be offered in 1893-94.]

III. SPANISH.

1. SPANISH—Grammar and Reading. Recitations.

FIRST TERM—Twice a week. Knapp's Spanish Grammar and Spanish Readings.

SECOND TERM—Twice a week. Knapp's Readings. Calderon: *La Vida es Sueño*.

THIRD TERM—Twice a week. Cervantes: *Don Quixote*.

Associate Professor BOWEN.

Elective in the Senior year of the Course in Arts and in the Junior or Senior year of the Courses in Philosophy and Science.

Course 1 in Spanish must be preceded by Course 1 in French.

SPANISH.

[See ROMANCE LANGUAGES].

VETERINARY MEDICINE.

1. VETERINARY ANATOMY—Lectures and demonstrations.

FIRST TERM—Three times a week. Lectures illustrated on skeletons and anatomical preparations.

SECOND TERM—Five times a week. Lectures illustrated in the dissecting room.

THIRD TERM—Three times a week. Lectures illustrated in the dissecting room and on anatomical preparations. Books of reference and recommended for study: Chauveau's Comparative Anatomy (translated by Fleming), Strangeways; McFadyean; Müller and Leisering, and others.

Dr. FISCHER.

2. ANATOMICAL LABORATORY:

SECOND TERM—Three times a week. Dissecting exercises, making anatomical preparations, and lectures on Topographical anatomy.

Books: McFadyean, Schmaltz, and others.

Dr. FISCHER.

3. GENERAL AND SPECIAL PATHOLOGY AND THERAPEUTICS. Lectures.

FIRST TERM—General Pathology three times a week.

SECOND TERM—Special Pathology and Therapeutics of Infectious and Contagious Diseases. Three times a week.

THIRD TERM—Special Pathology and Therapeutics of Infectious and Contagious Diseases. Three times a week.

Professor DETMERS.

3a. FIRST TERM—Special Pathology and Therapeutics of Sporadic Diseases. Three times a week.

SECOND TERM—Special Pathology and Therapeutics of Sporadic Diseases.

Books recommended: Robertson, Williams, Gresswell, Röhl, Dieckerhoff, Friedberger and Tröhner, and others.

Professor DETMERS.

4. SURGICAL DISEASES AND OPERATIONS. Lectures.

FIRST AND SECOND TERMS—Five times a week. Lectures illustrated on skeletons, by drawings, on living animals in the clinic, and on the carcass in the dissecting room.

Books recommended: Williams, Möller, Bayer, and others.

Dr. FISCHER.

5. OBSTETRICS. Lectures and demonstrations.

THIRD TERM—Five times a week.

Books: Fleming, and others.

Professor DETMERS.

6. PRINCIPLES OF HORSE-SHOEING—Lectures and demonstrations.

THIRD TERM—Three times a week.

Lectures illustrated by numerous drawings, skeletons and preparations, and in the clinic.

Dr. FISCHER.

7. BACTERIOLOGY—Lectures and laboratory work in the bacteriological laboratory and with the microscope.

Books: Fraenkel or Hueppe.

Professor DETMERS.

8. CLINIC IN THE VETERINARY HOSPITAL—Stationary and ambulatory.

The latter from 10:15 to 11:15 (Central time), every week day.

Professor DETMERS and Dr. FISCHER.

Attendance optional during the first year, but required during the second year, while the senior, or third year students, are required to attend to the treatment of the animals presented, and to perform the necessary operations under the superintendence of the professor or his assistant.

9. PHARMACOLOGY—Lectures.

FIRST AND SECOND TERMS—Three times a week.

Books recommended: Finlay Dun, and Fröhner.

Professor DETMERS (temporarily).

10. GENERAL THERAPEUTICS—Lectures.

THIRD TERM—Five times a week.

Book recommended: Ellenberger.

11. FORENSIC VETERINARY MEDICINE—Lectures.

THIRD TERM—Five times a week.

For facilities see LABORATORIES AND EQUIPMENT.

ZOOLOGY AND ENTOMOLOGY.

1. ZOOLOGY—Lectures, recitations, and demonstrations. Three times a week.

FIRST TERM. } Lectures and recitations two hours on systematic zoology
SECOND TERM. } and morphology, and one hour devoted to examinations
and dissections of types.

THIRD TERM—Entomology substituted for General Zoology. The same method of study is pursued.

Text-books—Required: Packard's Zoology, Comstock's Introduction to Entomology. Recommended for reference: Claus and Sedgwick's Text-book of Zoology, Saunders's Insects Injurious to Fruits, Packard's Forest Insects.

Professor KELLICOTT.

Required in the Freshman year of the Courses in Agriculture, and Horticulture and Forestry; elective in the Junior or Senior year of the Courses in Arts, Philosophy, and Science.

2. ZOOLOGY—Laboratory. Three or five hours a week credit, according to Course, extending through the year.

An advanced course in zoology and anatomy.

Professor KELLICOTT.

Elective in the Junior or Senior year of the Courses in Arts, Philosophy, and Science, and in the Senior year of the Course in Agriculture.

Course 2 must be preceded by Course 1 or 3.

3. COMPARATIVE ANATOMY—Laboratory. Three hours a week credit.

FIRST TERM—Comparative Osteology.

SECOND TERM—Myology, neurology, etc.

THIRD TERM—A critical study of vertebrate types.

Text-books—Required: Flowers's Osteology of Mammalia, Parker's Zootomy. Supplied as reference by the laboratory: Owen's Comparative Anatomy, Wilder and Gage's Animal Technology, Ecker's On the Frog, Jordon's Manual of the Vertebrates, and other guides.

Professor KELLICOTT.

Elective in the Sophomore year of the Courses in Arts, Philosophy, and Science.

4. ECONOMIC ENTOMOLOGY—Lectures and field-work.

THIRD TERM—Three hours a week. The collecting, rearing and preserving of insects, and practice in spraying and other means of controlling insect pests. Text-book—Weed's Insects and Insecticides.

Professor KELLICOTT.

Required in the second year of the Short Course in Agriculture.

5. ECONOMIC ENTOMOLOGY—Lectures and laboratory.

THIRD TERM—Three hours a week. Advanced work in systematic and practical entomology. Professor KELLICOTT.

Required of Juniors in Agriculture, and in Horticulture and Forestry.

Course 5 must be preceded by Course 1.

[NOTE REGARDING COURSE 5: Juniors in Horticulture and Forestry are required to take, in the third term, five hours of Economic Entomology; they will enter the three-hour class with the Juniors in Agriculture, and devote two additional hours to Orchard and Forest Insects.]

6. ADVANCED ENTOMOLOGY.

Thorough study of single groups or along definite lines of work arranged by the instructor with each student. Professor KELLICOTT.

Elective in the Senior year of the Courses in Agriculture, and Horticulture and Forestry.

For facilities see LABORATORIES and MUSEUMS.

REQUIREMENTS FOR GRADUATION.

THE SCHOOL OF ARTS AND PHILOSOPHY.

STANDING COMMITTEE.

President SCOTT, *Chairman*; Associate Professor BOWEN, *Secretary*; Professors ORTON, NORTON, DERBY, SMITH, KNIGHT, EGGERS, and Associate Professors CHALMERS and DENNEY.

This School includes the Course leading to the degree of Bachelor of Arts, and the three Courses leading to the degree of Bachelor of Philosophy.

COURSE IN ARTS.

This Course approximates as closely as may be to the "classical" or "academical" Course of most one-course colleges. As its essential and distinguishing feature the study of Latin and Greek is required, and a liberal share of the Course is devoted to other literary, linguistic and philosophical work. A large liberty of elective work, made possible by the broad scope of the University, is allowed, and the range of the electives widens from the Freshman year to the end of the Course. It will be seen by referring to the Course of study that it aims at the full modern interpretation of the idea of a liberal education, and that in both its required and elective features the symmetrical mental development of the student is sought.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction" beginning on page 38. Where a bracketed and italicized title follows the name of a study the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Latin <i>1</i> ,	5.	Latin <i>1</i> ,	5.	Latin <i>1</i> ,	5.
Greek <i>1</i> ,	5.	Greek <i>1</i> ,	5.	Greek <i>1</i> ,	5.
English <i>1</i> ,	2.	English <i>1</i> ,	2.	English <i>1</i> ,	2.
Military Drill.		Military Drill.		Military Drill.	

And one of the following groups; the option, when once made, determining the work for the entire year:

I.

General Chemistry 1, 4.	{ General Chem., 1, 2. Mineralogy, 3.	General Chemistry 2 4.
	[<i>Metallurgy 1</i>]	

II

General Chemistry 1, 4.	{ General Chem. 1, 2. Mathematics 5, 3	Mathematics 5, 3.
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III.

Mathematics 5, 3.	Mathematics 6, 5.	Mathematics 5, 3.
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SOPHOMORE YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Latin 2,	5.	Latin 2,	5.	Latin 2,	5.
Greek 2,	3.	Greek 2,	3.	Greek 2,	3.
English 8,	2.	English 8,	2.	English 8,	2.
English 2,	2.	English 2,	2.	English 2,	2.
Military Drill.		Military Drill.		Military Drill.	
		Art of War,	2.		

ELECTIVE.

Five hours a week through the year, chosen from the following studies:

General Chemistry 3, 5; Physics 2 and 8, 3; Botany 2, 2; Physiology 1, 3; Comparative Anatomy, [*Zoology 3*], 3; History 1, 2; German 3, 5; English 7, 2; Drawing 1, 1; Mathematics 7, 5.

JUNIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Greek 3,	3.	Greek 3,	3.	Greek 3,	3.
Philosophy 1,	3.	Philosophy 1,	3.	Philosophy 2,	3.
History 4,	2.	History 4,	2.	History 4,	2.
Political Economy,	2.	Political Economy,	2.	Political Economy,	2.
[<i>Political Science 1</i>]		[<i>Political Science 1</i>]		[<i>Political Science 1</i>]	

ELECTIVE.

Five hours a week through the year, chosen from the following studies:

General Chemistry 3 or 4, 5; Physics 7, 5; Physics 8, 3; Botany 2, 2; Botany 3, 5; Physiology 1 or 3, 3; Zoology 1 or 2, 3; Histology, [*Physiology 4*], 5; History 2, 3; Latin 3, 3; International Law and Municipal Government, [*Political Science 3* and 4], 2; German 3, 5; German 4, 3; French 1, 5; English 6, 2; English 7, 2; English 9, 3; English 10 or 11, 3; English 12 or 13, 2; Ancient Art [*Greek 5*], 2; Mathematics 7, 5; Mathematics 8 and Astronomy 2, 3; Mathematics 9, 5.

SENIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Greek <i>4</i> ,	3.	Greek <i>4</i> ,	3.	Greek <i>4</i> ,	3.
Philosophy <i>3</i> ,	3.	Philosophy <i>3</i> ,	3.	Philosophy <i>4</i> ,	3.

ELECTIVE.

Nine hours a week through the year, chosen from the following studies:

General Chemistry *4, 5*; Physics *7* or *9, 5*; Botany *3* or *5, 5*; Zoology *1* or *2, 3*; Histology, [*Physiology 4*], *5*; Geology *2, 5*, (first and second terms), followed by Astronomy *1, 5*, (third term); History *2* or *3, 3*; History *5, 2*; History *6* and *7, 3*; International Law and Municipal Government, [*Political Science 3* and *4*], *2*; Philosophy *5, 2*; Ancient Art, [*Greek 5*], *2*; German *4, 3*; German *5, 3*; French *2, 3*; Italian *1*, or Spanish *1, 2*; English *6, 2*; English *9, 3*; English *10* or *11, 3*; English *12* or *13, 2*; English *14, 3*; Economics and Finance, [*Political Science 2*], *2*; Mathematics *7, 5*; Mathematics *8* and Astronomy *2, 3*; Mathematics *9, 5*; Mathematics *10, 5*. Philosophy *6, 3*; Latin *3, 3*.

THESIS.

As a requisite for graduation each candidate must present an acceptable thesis, embodying the results of a special research. The subject of the research must lie in one of the branches (other than science) in which the candidate has studied during either of the last two years prior to graduation. The subject, together with a written approval of it by the head of the department within which it lies, must be submitted to the President of the University, not later than the beginning of the second term of the Senior year. The completed thesis must be submitted not later than the second Saturday before Commencement Day.

LATIN COURSE IN PHILOSOPHY.

This Course is similar to the Course in Arts, except that it omits the study of Greek and substitutes work in French and in History. As in the Course in Arts, a wide range of electives is offered, designed to afford ample opportunities for a liberal education for those who do not desire to pursue the traditional classical course.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

REQUIRED.

FIRST TERM		SECOND TERM		THIRD TERM.	
Latin <i>1</i> ,	5.	Latin <i>1</i> ,	5.	Latin <i>1</i> ,	5.
French <i>1</i> ,	5.	French <i>1</i> ,	5.	French <i>1</i> ,	5.
English <i>1</i> ,	2.	English <i>1</i> ,	2.	English <i>1</i> ,	2.
Military Drill.		Military Drill.		Military Drill.	

And one of the following groups; the option, when once made, determining the work for the entire year:

I.

General Chemistry 1, 4	{ General Chemistry 1, 2. Mineralogy, 3. [Metallurgy 1]	General Chemistry 2, 4.
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II.

General Chemistry 1, 4.	{ General Chemistry 1, 2. Mathematics 5, 3.	Mathematics 5, 3.
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III.

Mathematics 5, 3.	Mathematics 6, 5.	Mathematics 5, 3.
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SOPHOMORE YEAR.

REQUIRED.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin 2, 5.	Latin 2, 5.	Latin 2, 5.
French 2, 3.	French 2, 3.	French 2, 3.
English 8, 2.	English 8, 2.	English 8, 2.
English 2, 2.	English 2, 2.	English 2, 2.
Military Drill.	Military Drill.	Military Drill.
	Art of War 2.	

ELECTIVE.

Five hours a week through the year, chosen from the following studies:

General Chemistry 3, 5; Physics 2 and 8, 3; Botany 2, 2; Physiology 1, 3; Comparative Anatomy, [Zoology 3], 3; History 1, 2; German 3, 5; English 7, 2; Drawing 1, 1; Mathematics 7, 5.

JUNIOR YEAR.

REQUIRED.

FIRST TERM.	SECOND TERM.	THIRD TERM.
History 2, 3.	History 2, 3.	History 2, 3.
Philosophy 1, 3.	Philosophy 1, 3.	Philosophy 2, 3.
History 4, 2.	History 4, 2.	History 4, 2.
Political Economy 2.	Political Economy 2.	Political Economy 2.
[Political Science 1]	[Political Science 1]	[Political Science 1]

ELECTIVE.

Five hours a week through the year, chosen from the following studies;

General Chemistry 3 or 4, 5; Physics 8, 3; Physics 7, 5; Botany 2, 2; Botany 3, 5; Physiology 1 or 3, 3; Zoology 1 or 2, 3; Histology, [Physiology 4], 5; Latin 3, 3; International Law and Municipal Government, [Political Science 3 and 4], 2; German 3, 5; German 4, 3; French 4, 3; English 6, 2; English 7, 2; English 9, 3; English 10 or 11, 3; English 12 or 13, 2; Italian 1 or Spanish 1, 2; Ancient Art, [Greek 5], 2; Mathematics 7, 5; Mathematics 8 and Astronomy 2, 3; Mathematics 9, 5.

SENIOR YEAR.

REQUIRED.

FIRST TERM		SECOND TERM.		THIRD TERM.	
History 3,	3.	History 3,	3.	History 3,	3.
Philosophy 3,	3.	Philosophy 3,	3.	Philosophy 4,	3.

ELECTIVE.

Nine hours a week through the year, chosen from the following studies:

General Chemistry 4, 5; Physics 7 or 9, 5; Botany 3 or 5, 5; Zoology 1 or 2, 3; Histology, [*Physiology* 4], 5; Geology 2, 5, (first and second terms), followed by Astronomy 1, 5, (third term); History 5, 2; History 6 and 7, 3; Philosophy 5, 2; Ancient Art, [*Greek* 5], 2; German 4, 3; German 5, 3; English 6, 2; English 9, 3; English 10 or 11, 3; English 12 or 13, 2; English 14, 3; Italian 1 or Spanish 1, 2; International Law and Municipal Government, [*Political Science* 3 and 4], 2; Economics and Finance, [*Political Science* 2], 2; Mathematics 7, 5; Mathematics 8 and Astronomy 2, 3; Mathematics 9, 5; Mathematics 10, 5; Latin 3, 3.

THESIS.

As a requisite for graduation each candidate must present an acceptable thesis, embodying the results of a special research. The subject of the research must lie in one of the branches (other than science) in which the candidate has studied during either of the last two years prior to graduation. The subject, together with a written approval of it by the head of the department within which it lies, must be submitted to the President of the University, not later than the beginning of the second term of the Senior year. The completed thesis must be submitted not later than the second Saturday before Commencement Day.

MODERN LANGUAGE COURSE IN PHILOSOPHY.

This Course has been framed with a view to the wants of the increasing class of students who desire full and extended training in the modern languages, without pursuing the study of the ancient languages. To that end German and French are required through the greater part of the Course, and opportunity is given for the study of Italian and Spanish. As in the Course in Arts a considerable share of the time is devoted to literary and philosophical work, while large liberty of electives is allowed.

[NOTE: The *Italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction" beginning on page 38. Where a bracketed and italicized title follows the name of a study the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
French 1,	5.	French 1,	5.	French 1,	5.
*German 3,	5.	*German 3,	5.	*German 3,	5.
or		or		or	
{ German 4,	3.	{ German 4,	3.	{ German 4,	3.
{ History 4,	2.	{ History 4,	2.	{ History, 4	2.

* Students who have entered with Latin as their preparatory language take German 3, five hours, during the Freshman year; those who have entered with German as their preparatory language, take German 4, (three hours) and History 4, two hours in the Freshman year.

English 1, 2.
Military Drill.

English 1, 2.
Military Drill.

English 1, 2.
Military Drill.

And one of the following groups; the option, when once made, determining the work for the entire year:

I.

General Chemistry 1, 4.

{ General Chem. 1, 2.
Mineralogy, 3.

General Chemistry, 2, 4.

[*Metallurgy*, 1.]

II.

General Chemistry 1, 4.

{ General Chem. 1, 2.
Mathematics 5, 3.

Mathematics 5, 3.

III.

Mathematics 5, 3.

Mathematics 6, 5.

Mathematics 5, 3.

SOPHOMORE YEAR.

REQUIRED.

FIRST TERM.

French 2, 3.
German 4 or 5, 3.
English 8, 2.
English 2, 2.
History 1, 2.
Military Drill.

SECOND TERM.

French 2, 3.
German 4 or 5, 3.
English 8, 2.
English 2, 2.
History 1, 2.
Military Drill.
Art of War, 2.

THIRD TERM.

French 2, 3.
German 4 or 5, 3.
English 8, 2.
English 2, 2.
History 1, 2.
Military drill.

ELECTIVE.

Five hours a week through the year, chosen from the following studies:

General Chemistry 3, 5; Physics 2 and 8, 3; Botany 2, 2; Physiology, 1, 3; Comparative Anatomy, [*Zoology* 3], 3; English 7, 2; Drawing 1, 1; Mathematics 7, 5.

JUNIOR YEAR.

REQUIRED.

FIRST TERM.

French 4, 3.
German 5 or 6, 3.
Philosophy 1, 3.
¹English 7, 2.

SECOND TERM.

French 4, 3.
German 5 or 6, 3.
Philosophy 1, 3.
English 7, 2.

THIRD TERM.

French 4, 3.
German 5 or 6, 3.
Philosophy 2, 3.
English 7, 2.

ELECTIVE.

Five hours a week through the year, chosen from the following studies:

General Chemistry 3 or 4, 5; Physics 8, 3; Physics 7, 5; Botany 2, 2; Botany 3, 5; Physiology 1 or 3, 3; Zoology 1 or 2, 3; Histology, [*Physiology* 4], 5; History 2, 3; International Law and Municipal Government, [*Political Science* 3 and 4], 2;

¹Students who have entered with Latin as their preparatory language take History 4 during the Junior year in place of English 7.

English 6, 2; English 7, 2; English 9, 3; English 10 or 11, 3; English 12 or 13, 2; Italian 1 or Spanish 1, 2; Ancient Art [*Greek 5*], 2; Mathematics 7, 5; Mathematics 8 and Astronomy 2, 3; Mathematics 9, 5.

SENIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Philosophy 3,	3.	Philosophy 3,	3.	Philosophy 4,	3.
Political Economy	2.	Political Economy	2.	Political Economy	2.
[<i>Political Science 1</i>]		[<i>Political Science 1</i>]		[<i>Political Science 1</i>]	
*German 6,	3.	*German 6,	3.	*German 6,	3.

ELECTIVE.

† Seven hours a week through the year, chosen from the following studies :

General Chemistry 4, 5; Physics 7 or 9, 5; Botany 3 or 5, 5; Zoology 1 or 2, 3; Histology, [*Physiology 4*], 5; Geology 2, 5, (first and second terms), followed by Astronomy 1, 5 (third term); History 2 or 3, 3; History 5, 2; History 6 and 7, 3; International Law and Municipal Government, [*Political Science 3* and 4], 2; Philosophy 5, 2; Philosophy 6, 3; Ancient Art, [*Greek 5*], 2; English 6, 2; English 9, 3; English 10 or 11, 3; English 12 or 13, 2; English 14, 3; Spanish 1, or Italian 1, 2; Mathematics 7, 5; Mathematics 8 and Astronomy 2, 3; Mathematics 9, 5; Mathematics 10, 5.

THESIS.

As a requisite for graduation each candidate must present an acceptable thesis, embodying the results of a special research. The subject of the research must lie in one of the branches (other than science) in which the candidate has studied during either of the last two years prior to graduation. The subject must be announced to the President of the University (dependent upon the written approval of the head of the department within which it lies), not later than the beginning of the second term of the Senior year. The completed thesis must be submitted not later than the second Saturday before Commencement Day.

ENGLISH COURSE IN PHILOSOPHY.

This course is intended to meet the wants of such students as desire to make a special study of literary, philosophical, historical and economic subjects. Students electing this Course are advised to begin specializing in some one or more of these subjects as early in the Course as possible, and are required not later than the beginning of the Junior year, to begin specializing in one of these subjects. The Course allows large liberty of electives.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

* This is required in the Senior year for those students who began their study of German in the Freshman year.

† Those students of whom German 6 is not required in the Senior year are required to take ten hours per week of the elective studies.

FRESHMAN YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
French 1, }	5.	French 1, }	5.	French 1, }	5.
or German 3, }		or German 3, }		or German 3, }	
English 1,	2.	English 1,	2.	English 1,	2.
History 4,	2.	History 4,	2.	History 4,	2.
Philosophy 7,	2.	Philosophy 8,	2.	Philosophy 8,	2.
Military Drill.		Military Drill		Military Drill.	

ELECTIVE.

Five hours a week through the year chosen from any of the courses given in the Collegiate Department of the University upon which the student is qualified to enter. But during his Course he must complete in all at least eight hours in science.

(In case a student offers French or German for admission, he will take as his required language in the Freshman and Sophomore years, the one of these two languages not offered for admission.)

SOPHOMORE YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
French 2, }	3.	French 2, }	3.	French 2, }	3.
or German 4, }		or German 4, }		or German 4, }	
English 2,	2.	English 2,	2.	English 2,	2.
English 8,	2.	English 8,	2.	English 8,	2.
Political Science 1,	2.	Political Science 1,	2.	Political Science 1,	2.
Philosophy 9,	3.	Philosophy 10,	3.	Philosophy 10,	3.
Military Drill.		Military Drill.		Military Drill.	
		Art of War	2.		

ELECTIVE.

Five hours a week through the year chosen from any of the courses given in the Collegiate Department of the University upon which the student is qualified to enter.

JUNIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
English 7,	2.	English 7,	2.	English 7,	2.

And each student must elect as his major study English, or Philosophy, or History and Political Science. At least five hours a week through the Junior and Senior years must be given to this major study.

ELECTIVE.

Eight hours a week through the year chosen from any of the courses given in the Collegiate Department of the University upon which the student is qualified to enter.

SENIOR YEAR.

REQUIRED.

Five hours a week in the major study as in the Junior year.

ELECTIVE.

Ten hours a week chosen from any courses of the Collegiate Department on which the student is qualified to enter.

THESIS.

At the beginning of the Senior year, each student in this course will take up as thesis work some special line of inquiry within the field of his major study, subject to the approval of the professor in charge of the department, and must devote to it two hours per week, or its equivalent, independently of his other work. The subject, together with a written approval of it by the head of the department within which it lies, must be submitted to the President of the University, not later than the beginning of the second term of the Senior year. The completed thesis must be submitted not later than the second Saturday before Commencement Day.

THE SCHOOL OF SCIENCE.

STANDING COMMITTEE.

President SCOTT, *Chairman*; Professor BOHANNAN, *Secretary*; Professors ORTON, THOMAS, KELLICOTT, BLEILE, and Associate Professors BOWEN and DENNEY.

COURSE IN SCIENCE.

The aim of this Course is to give the student not merely a good general knowledge of the various sciences, but that special and thorough training in some one of them which results from prolonged study and laboratory work. To this end each student is required during the last half of the Course to specialize his work and to devote at least one-third of his time to one among the several fields in science open to his choice. At the same time the Course is so arranged as to permit him free election, for a considerable part of his work, from other scientific and non-scientific studies.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
General Chemistry, 1,	4.	General Chemistry 1,	2	General Chemistry 2,	4.
Mathematics 5,	3.	Mathematics 5,	3.	Mathematics 5,	3.
Systematic Botany	2.	Physiological Botany.	2.	Cryptogamic Botany.	2.
[<i>Botany</i> 2]		[<i>Botany</i> 2,]		[<i>Botany</i> 2,]	
English 1,	2.	English 1,	2.	English 1,	2.
French 1,	5.	French 1,	5.	French 1,	5.
or		or		or	
*German 1,		*German 1,		*German 1,	
Military Drill.		Mineralogy,	3.	Military Drill.	
		[<i>Metallurgy</i> 1,]			
		Military Drill.			

SOPHOMORE YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Physics 2,	3.	Physics 2,	3.	Physics 2,	3.
Physiology 1,	3.	Physiology 1,	3.	Physiology 1,	3.
English 2,	2.	English 2,	2.	English 2,	2.
French 3,	2.	French 3,	2.	French 3,	2.
or		or		or	
†German 2 and 4,	5.	†German 2 and 4,	5.	†German 2 and 4,	5.
Military Drill.		Military Drill,		Military Drill.	
		Art of War.	2.		

ELECTIVE.

Seven‡ hours a week through the year, chosen from the following studies:

General Chemistry 3, 5; Botany 3, 5; Comparative Anatomy, [*Zoology* 3], 3; Physics 8, 3; Mathematics 7, 5; English 7 or 8, 2; History 1 or 4, 2; †German 2, 2; Drawing 1, 1.

JUNIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Philosophy 1,	3.	Philosophy 1,	3.	Philosophy 2,	3.
Political Economy,	2.	Political Economy,	2.	Political economy,	2.
[<i>Political Science</i> 1]		[<i>Political Science</i> 1]		[<i>Political Science</i> 1]	

ELECTIVE.

Ten hours a week, of which at least five shall be in science; the science to be Mathematics or one in which laboratory instruction is given, and to be continued to the end of the Course. The other five hours may be chosen from any courses given in the Collegiate Department of the University upon which the student is qualified to enter.

†Students who enter the University with Latin as their preparatory language will take German in the Sophomore year; other students will take French.

‡For students of whom five hours of German is required, the minimum of elective studies in this year is four hours instead of seven.

†For students who entered the University with German as the preparatory language.

SENIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Geology 2,	5.	Geology 2,	5.	Astronomy 1,	5.

ELECTIVE.

Ten hours a week with the same conditions and privileges as in the Junior year.

SPECIAL REQUIREMENT IN THE COURSE IN SCIENCE.

MAJOR STUDY.

Not later than the beginning of the Junior year, each student in Science shall elect a major study, and shall announce his choice to the Secretary of the Science Committee. The major study shall be Mathematics, or one of the sciences in which laboratory instruction is offered in the University, or (with the approval of the Science Committee) two or more of such allied sciences. At least five hours a week, or its equivalent, during the last two years of the student's residence at the University preceding graduation, shall be devoted to the major study; and the work in this study, in case it is a single science, shall be under the direction and control of the professor of that science or, in case a group of allied sciences constitute the major study, the work shall be in charge of the professors of those sciences, jointly.

THESIS.

As a requisite for graduation each student must present an acceptable thesis embodying the results of a special research. The line of research must lie within the field of the major study, and is subject to the approval of the professor, or professors, having the major study in charge; and the student shall enter on this work not later than the beginning of the Senior year, and shall devote to it not less than two hours a week, or its equivalent, for one year, independently of his other work. The subject of the thesis, together with a written approval of it by the professor, or professors, directing the investigation, must be submitted to the President of the University not later than the beginning of the second term of the Senior year, and the completed thesis must be submitted not later than the second Saturday before Commencement Day. In case two or more students are pursuing the same major study, a joint research and thesis may be made.

THE SCHOOL OF AGRICULTURE.

STANDING COMMITTEE.

President SCOTT, *Chairman*; Professor LAZENBY, *Secretary*; Professors ROBINSON, WEBER, DETMERS, KELLICOTT, BLEILE, KELLERMAN and HUNT.

This School embraces three Courses: The Course in Agriculture, the Course in Horticulture and Forestry, and the Short Course in Agriculture, the last designed for those students who can spend but two years at the University.

The aim of the School is to give to young men a general education, and to fit them specially, first, for the pursuit of agriculture and horticulture in a rational manner; second, to fill positions as agriculturalists, horticulturalists, botanists, and agricultural chemists. To this end the University has provided and is constantly adding such instructional force and material equipment as are needed to give the most thorough and complete training in the subjects coming within the scope of these important branches of industry.

A free scholarship in the Short Course in Agriculture, covering all college dues, is annually granted to one student from each county in the State. Fuller information concerning these scholarships is given on page 25.

COURSE IN AGRICULTURE.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

REQUIRED.

FIRST TERM.	SECOND TERM	THIRD TERM.
Agricult'l Chem'try 1, 5.	Agricult'l Chem'try 2, 5.	Agricult'l Chem'try 2, 5.
Physiological Botany 5. [<i>Botany 3</i>]	Economic Botany 5. [<i>Botany 3</i> ,]	Vegetable Pathology 5. [<i>Botany 3</i> ,]
Zoology 1, 3.	Zoology 1, 3.	Zoology 1, 3.
English 1, 2.	English 1, 2.	English 1, 2.
Military Drill.	Military Drill.	Military Drill

SOPHMORE YEAR.

REQUIRED.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Domestic Animals, 4. [<i>Agriculture 2</i> ,]	Domestic Animals, 4. [<i>Agriculture 2</i>]	Domestic Animals, 4. [<i>Agriculture 2</i>]
Veterinary Anatomy, 3.	Veterinary Anatomy. 5.	Veterinary Anatomy, 3.

[<i>Veterin'y Medicine 1</i>]		[<i>Veterin'y Medicine 1</i>]		[<i>Veterin'y Medicine 1</i>]	
Horticulture 1,	3.	Horticulture 1,	3.	Horticulture 1,	2.
Agricult'l Chemistry 4, 3.		Agricult'l Chemistry 4, 3.		Agricult'l Chemistry 4, 3.	
Physiology 1.	3.	Physiology 1,	3.	Physiology 1,	3.
Military Drill.		Military Drill.		Field Measurements, 3.	
		Art of War,	2.	[<i>Civil Engineering 13</i>]	
				Military Drill.	

JUNIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Agriculture 1,	3.	Agriculture 1,	3.	Agriculture 1,	3.
General Pathology,	3.	Special Pathology,	3.	Special Pathology,	3.
[<i>Veterin'y Medicine 3</i>]		[<i>Veterin'y Medicine 3</i>]		[<i>Veterin'y Medicine 3</i>]	
Geology 2,	5.	Mech. Engineering 1,	3.	Entomol'y, [<i>Zoology 5</i>]	3.
French 1, }		French 1, }		French 1, }	
or }	5.	or }	5.	or }	5.
German 3, }		German 3, }		German 3, }	
History 4,	2.	History 4,	2.	History 4,	2.

SENIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Agriculture 4,	4.	Agriculture 4,	4.	Agriculture 4,	4.
Agricult'l Chemistry 5, 3.		Agricult'l Chemistry 5, 3.		Agricult'l Chemistry 5, 3.	

ELECTIVE.

Ten hours a week throughout the year chosen from the following subjects;

Horticulture 2, 5; Veterinary Medicine 4 and 5, 5; Botany 5, 5; Zoology 2, 5; Entomology, [*Zoology 6*], 5; Physics 2, 3; Philosophy 1 and 2, 3; History 1, 2; History 2 or 3, 3; French 2, 3; German 4, 3; Mechanical Engineering 1, 3; Political Economy, [*Political Science 1*], 2; English 3, 2; English 8, 2.

THESIS.

As a requisite for graduation each candidate must present an acceptable thesis embodying the results of a special research. The subject must be announced to the President of the University (dependent upon the written approval of the head of the department within which it lies) not later than the beginning of the second term of the Senior year. The completed thesis must be submitted not later than the second Saturday before Commencement Day.

SHORT COURSE IN AGRICULTURE.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction" beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Agricult'l Chemistry 1, 5.	Agricult'l Chemistry 2, 5.	Agricult'l Chemistry 2, 5.
Physics 1, 5.	Physics 1, 5.	Physical Geography, 5.
Mathematics 1, 5.	Mathematics 3, 5.	[<i>Geology 1</i>]
Military Drill.	Mechanical	Elementary Botany 5.
	Engineering 1, 3.	[<i>Botany 1</i>]
	Military Drill.	Field Measurements, 3.
		[<i>Civil Engineering 13</i>]
		Military Drill.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Agriculture 1, 3.	Agriculture 1, 3.	Agriculture 1, 3.
Domestic Animals, 4.	Domestic Animals, } 4.	Domestic Animals, 4.
[<i>Agriculture 2</i>]	[<i>Agriculture 2</i>]	[<i>Agriculture 2</i>]
Physiological Botany. 5.	or	Entomology, 3.
[<i>Botany 3.</i>]	Agriculture 4, }	[<i>Zoology 4</i>]
General Pathology, 3.	Special Pathology, 3.	Special Pathology, 3.
[<i>Veterin'y Medicine 3</i>]	[<i>Veterin'y Medicine 3</i>]	[<i>Veterin'y Medicine 3</i>]
Horticulture 1, 3.	Horticulture 1, 3.	Horticulture 1, 2.
Military Drill.	Physiology 2, 5.	Military Drill.
	Military Drill.	

COURSE IN HORTICULTURE AND FORESTRY.

[NOTE. The *italicised* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

REQUIRED.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Agricult'l Chemistry 1, 5.	Agricult'l Chemistry 2, 5.	Agricult'l Chemistry 2, 5.
Physiological Botany 5.	Economic Botany 5.	Veg. Pathology 5
[<i>Botany 3</i>]	[<i>Botany 3</i>]	[<i>Botany 3</i>]
Zoology 1, 3.	Zoology 1, 3.	Zoology 1, 3.
English 1, 2.	English 1, 2.	English 1, 2.
Military Drill	Military Drill.	Military Drill

SOPHOMORE YEAR.

REQUIRED.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Horticulture 1, 3.	Horticulture 1, 3.	Horticulture 1, 2.
Agricultural	Agricultural	Agricultural

Chemistry 4,	3.	Chemistry 4,	3.	Chemistry 4,	3.
Physiology 1,	3	Physiology 1,	3.	Physiology 1,	3.
French 1, }		French 1, }		French 1, }	
or }	5.	or }	5.	or }	5.
German 3, }		German 3, }		German, 3, }	
English 8,	2.	English 8,	2.	English 8,	2.
Military Drill.		Military Drill.		Military Drill.	
		Art of War,	2.		

JUNIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Horticulture 2,	5.	Horticulture 2,	5.	Horticulture 2,	5
Agriculture 1,	3.	Agriculture 1,	3.	Agriculture 1,	3.
Geology 2,	5.	Mechanical		Entomology,	5.
		Engineering 1,	3.	[Zoology 5]	
History 4,	2.	History 4,	2.	History 4,	2.

ELECTIVE.

Any one of the following: History 1, 2; History 2, 3; English 3, 2; English 9, 3; Philosophy 1 and 2, 3; French 2, 3; German 4, 3; Political Economy, [*Political Science* 1], 2.

SENIOR YEAR.

REQUIRED.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Horticulture 3,	3.	Horticulture 3,	3.	Horticulture 3,	3.
Floriculture,	2.	Floriculture,	2.	Floriculture,	2.
[Horticulture 4]		[Horticulture 4]		[Horticulture 4]	

• ELECTIVE.

Ten hours a week through the year, chosen from the following studies:

Agriculture 4, 4, Agricultural Chemistry 6, 5; Botany 5, 5; Entomology' [*Zoology* 6], 5; History 1, 2; History 2 or 3, 3; Philosophy 1 and 2, or 3 and 4, 3; French 4, 3; German 5, 3; English 12 or 13, 2; Political Economy, [*Political Science* 1], 2; English 3, 2

THESIS.

As a requisite for graduation each candidate must present an acceptable thesis embodying the results of a special research. The subject must be announced to the President of the University (dependent upon the written approval of the head of the department within which it lies), not later than the beginning of the second term of the Senior year. The completed thesis must be submitted not later than the second Saturday before Commencement Day.

THE SCHOOL OF ENGINEERING,

STANDING COMMITTEE.

President SCOTT, *Chairman*; Professor THOMAS, *Secretary*; Professors ROBINSON,
LORD, BOHANNAN, BROWN, and EGGERS.

This School comprises the departments represented in the Courses in Civil, Mining, Mechanical, and Electrical Engineering, and in the Short Course in Mining

COURSE IN CIVIL ENGINEERING.

This Course is arranged for students expecting to become surveyors or civil engineers. The plan of the Course is to give (1) a thorough training in mathematics and mechanics, (2) the general principles underlying all branches of civil engineering, (3) the application of the general principles to the several branches of civil engineering. The subjects of land, railroad, and topographical surveying are important features, and students can at once begin practical work. In the engineering work special attention is given to iron and steel bridge work, masonry construction and cement testing, road and railroad building and maintenance, water supply and the subject of the collection and disposal of sewage.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 6,	5.	Mathematics 6,	5.	Mathematics 6,	5.
Chemistry,	5.	Chemistry,	5.	Mineralogy,	3.
[<i>Agricult'l Chem. 1</i>]		[<i>Agricult'l Chem. 3</i>]		[<i>Metallurgy 2</i>]	
Drawing 1,	1.	Drawing 1,	1.	Lettering,	2.
French 1, }		French 1, }		[<i>Drawing 2</i>],	
or	5.	or	5.	French 1, }	
German 1, }		German 1, }		or	5.
English 1,	2.	English 1,	2.	German 1, }	
Military Drill.		Military Drill.		English 1,	2.
				Military Drill.	

SOPHOMORE YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 7,	5.	Mathematics 7,	5.	Mathematics 7,	5.
Surveying,	6.	C. E. Drawing,	4.	Surveying,	6.
[<i>Civil Engineer'g 1</i>]		[<i>Civil Engineer'g 4</i>]		[<i>Civil Engineer'g 2</i>]	
Drawing 3,	3.	Drawing 3,	5.	Drawing 3,	3.
Physics 2,	3.	Physics 2,	3.	Physics 2,	3.

French 3, } or German 2, }	2.	French 3, } or German 2, }	2.	French 3, } or German 2, }	2.
Military Drill.		Military Drill.		Military Drill.	
		Art of War.	2.		

JUNIOR YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mechanics,	5.	Mechanics,	5.	Strength of Materials,	5.
[<i>Mech. Engineer'g</i> 6]		[<i>Mech. Engineer'g</i> 6]		[<i>Mech. Engineer'g</i> 7]	
Surveying,	4.	Stereotomy,	4.	Bridge Strains,	5.
[<i>Civil Engineering</i> 3]		[<i>Civil Engineering</i> 6]		[<i>Civil Engineering</i> 7]	
Geology 2,	5.	Geology 2,	5.	Photography,	2.
				[<i>Drawing</i> 7]	
Astronomy 2,	1.	Astronomy 2,	3.	Astronomy 2,	3.
Mathematics 8,	2.	English 3,	2.	C. E. Drawing,	2.
English 3,	2.			[<i>Civil Engineering</i> 5]	
				English 3,	2.

SENIOR YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Civil Engineering 9,	5.	Civil Engineering, 9,	5.	Civil Engineering 9,	5.
Bridge Designing,	5.	Geology 3,	5.	Sanitary Engineering,	5.
[<i>Civil Engineering</i> 8]				[<i>Civil Engineering</i> 10]	
Physics 7,	5.	Physics 7,	5.	C. E. Laboratory,	5.
Eng'eer'g Periodicals, 2.		Eng'eer'g Periodicals, 2.		[<i>Civil Engineering</i> 12]	
[<i>Civil Engineering</i> 11]		[<i>Civil Engineering</i> 11]		Eng'eer'g Periodicals, 2.	
				[<i>Civil Engineering</i> 11]	

THESIS.

As a requisite for graduation each candidate must present an acceptable thesis, embodying the results of a special study. The subject of the study must lie within the field of Civil Engineering. The subject must be announced to the President of the University (dependent upon the approval of the head of the department), not later than the beginning of the second term of the Senior year, and the completed thesis must be submitted not later than the second Saturday before Commencement Day.

COURSE IN MINING ENGINEERING.

This Course is arranged for students intending to become mining engineers and surveyors, metallurgical or technical chemists. The plan of work, therefore, while keeping mathematics, drawing, and engineering prominent, also provides extended work in applied chemistry chemical analysis, assaying, mineralogy, geology, and surveying with especial application to mines and underground work, while the treatment of ores, both mechanical in ore dressing and chemical in metallurgy, forms an important feature.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 6,	5.	Mathematics 6,	5.	Mathematics 6,	5.
Chemistry,	5.	Chemistry,	5.	Mineralogy,	3.
[<i>Agricult'rl Chem. 1</i>]		[<i>Agricult'rl Chem. 3</i>]		[<i>Metallurgy 2</i>]	
Drawing 1,	1.	Drawing 1,	1.	Lettering,	2.
				[<i>Drawing 2</i>]	
French 1, }		French 1, }		French 1, }	
or		or		or	
German 1, }	5.	German 1, }	5.	German 1, }	5.
English 1,	2.	English 1,	2.	English 1,	2.
Military Drill.		Military Drill.		Military Drill.	

SOPHOMORE YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 7,	5.	Mathematics 7,	5.	Mathematics 7,	5.
Drawing 3,	3.	Drawing 3,	3.	Drawing 3,	3.
Mechanical Lab'y	2.	Mechanical Lab'y,	2.	Mechanical Lab'y,	2.
[<i>Mech. Engineering 1</i>]		[<i>Mech. Engineering 1</i>]		[<i>Mech. Engineering 1</i>]	
Metallurgy 5,	5.	Metallurgy 5,	5.	Metallurgy 5,	5.
French 3, }		French 3, }		French 3, }	
or		or		or	
German 2, }	2.	German 2, }	2.	German 2, }	2.
English 3,	2.	English 3,	2.	English 3,	2.
Military Drill.		Military Drill.		Military Drill.	
		Art of War.	2.		

JUNIOR YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mechanics,	5.	Mechanics,	5.	Strength of Materials,	5.
[<i>Mech. Engineering 6</i>]		[<i>Mech. Engineering 6</i>]		[<i>Mech. Engineering 7</i>]	
Physics 2,	3.	Physics 2,	3.	Physics 2,	3.
Metallurgy 4,	5.	Metallurgy 4,	5.	Bridge Strains,	5.
				[<i>Civil Engineering 7</i>]	
Mine Surveying,	5.	Assaying,	5.	Determinative Miner-	
[<i>Mine Engineering 4</i>]		[<i>Metallurgy 6</i>]		alogy [<i>Metallurgy 3</i>],	5.

SENIOR YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mining Engineer'g 5,	5.	Mining Engineer'g 5,	5.	Mining Engineer'g 5,	5.
Geology 2,	5.	Geology 2,	5.	Ore Dressing,	5.
Metallurgy 7,	3.	Geology 3,	5.	[<i>Metallurgy 8</i> ,	
Electrical		Electrical		Electrical	
Engineering 5,	3.	Engineering 5,	3.	Engineering 5,	3.
Photography,	2.			Plans and	
[<i>Drawing 7</i> ,]				Specifications,	5.
				[<i>Metallurgy 10</i>]	

THESIS.

As a requisite for graduation each candidate must present an acceptable thesis embodying the results of a special study. The subject of the study must lie within the field of Metallurgy or of Mining Engineering. The subject must be announced to the President of the University (dependent upon the written approval of the head of the department) not later than the beginning of the second term of the Senior year, and the completed thesis must be submitted not later than the second Saturday before Commencement Day.

SHORT COURSE IN MINING.

This Course is intended for students lacking time and preparation for the full Course, and is principally designed for those who have had some practical experience as miners. The work is more elementary in character than in the long Course, and is made to apply especially to coal mining.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicised title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FIRST YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 2,	5.	Mathematics 2,	5.	Mathematics, 2,	5.
Mathematics 4,	5.	Mathematics 4,	5.	Mathematics 4,	5.
Physics 1,	5.	Physics 1,	5.	Physical Geography	5.
				[<i>Geology 1.</i>]	
Military Drill.		Military Drill.		Military Drill.	

SECOND YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mine Surveying,	5.	Ventilation and		Mine Operating,	5.
		Haulage,	5.		
[<i>Mine Engineering 1</i>]		[<i>Mine Engineering 2</i>]		[<i>Mine Engineering 3</i>]	
Mineral Chemistry,	5.	Mineral Chemistry,	2.	Mineral Chemistry,	5.
[<i>Metallurgy 9</i>]		[<i>Metallurgy 9</i>]		[<i>Metallurgy 9</i>]	
Drawing 1,	2.	Drawing 4,	3.	Lettering,	2.
				[<i>Drawing 2.</i>]	
Drawing 3,	3.	Geology 4,	5.	Mechanical Lab'y,	3.
				[<i>Mech. Engineering 1.</i>]	
Military Drill.		Military Drill.		Military Drill.	

COURSE IN MECHANICAL ENGINEERING.

This Course has for its first object the qualifying of men for the mechanical engineering profession. It aims to embrace preparation for such lines of pursuit as the successful management of machinery in manufacturing establishments; the superintendence of construction; the designing and laying out of machinery plants

of mills and factories; the invention of machines for particular purposes, and the designing and drawing of the same, or of the inventions of others, preparatory to construction; the making of calculations or exercising sound judgment respecting strength, shocks, proportion, endurance and suitability of material for specific purposes, as steel in temper, composition metals, woods, etc.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction" beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 6,	5.	Mathematics 6,	5.	Mathematics 6,	5.
Chemistry,	5.	Chemistry,	5.	Mechanical Lab'y,	3.
[<i>Agricult'l Chem. 1</i>]		[<i>Agricult'l Chem. 3</i>]		[<i>Mech. Engineer'g 1</i>]	
Drawing 1,	1.	Drawing 1,	1.	Lettering, [<i>Draw'g 2</i>]	2.
French 1,	}	French 1,	}	French 1,	}
or		or		or	
German 1,	}	German 1,	}	German 1,	}
English 1,		English 1,		English 1,	
Military Drill.	2.	Military Drill.	2.	Military Drill.	2.

SOPHOMORE YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 7,	5.	Mathematics 7,	5.	Mathematics 7,	5.
Mechanical Lab'y,	4.	Mechanical Lab'y,	2.		
[<i>Mech. Engineer'g 1</i>]		[<i>Mech. Engineer'g 1</i>]			
Drawing 3,	3.	Drawing 3,	3.	Drawing 3,	3.
Physics 2,	3.	Physics 2,	3.	Physics 2,	3.
		Physics 7,	2.	Physics 7,	4.
French 3,	}	French 3,	}	French 3,	}
or		or		or	
German 2,	}	German 2,	}	German 2,	}
English 3,		English 3,		English 3,	
Military Drill.	2.	Military Drill.	2.	Military Drill.	2.
		Art of War,	2.		

JUNIOR YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mechanics,	5.	Mechanics,	5.	Strength of Materials,	5.
[<i>Mech. Engineer'g 6</i>]		[<i>Mech. Engineer'g 6</i>]		[<i>Mech. Engineer'g 7</i>]	
Mechanical.		Mechanical.			
Laboratory,	3.	Laboratory,	4.	Bridge Strains,	5.
[<i>Mech. Engineer'g 2</i>]		[<i>Mech. Engineer'g 2</i>]		[<i>Civil Engineer'g 7</i>]	
Mechanism,	2.	Mechanism,	5.	Mechanism,	4.
[<i>Mech. Engineer'g 3</i>]		[<i>Mech. Engineer'g 3</i>]		[<i>Mech. Engineer'g 3</i>]	
Physics 7,	4.	Physics 7,	5.	Drawing 6,	5.
Mathematics 8,	2.				
Drawing 5,	3.				

SENIOR YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Thermodynamics, 5.		Prime Movers, 5.		Machinery, etc., 5.	
[<i>Mech. Engineer'g 8</i>]		[<i>Mech. Engineer'g 9</i>]		[<i>Mech. Engineer'g 10.</i>]	
Mechanical Lab'y, 5.		Mechanical Lab'y, 3.		Mechanical Lab'y, 5.	
[<i>Mech. Engineer'g 2</i>]		[<i>Mech. Engineer'g 2</i>]		[<i>Mech. Engineer'g 2</i>]	
Metallurgy 4, 5.		Metallurgy 4, 5.		Photography, 2.	
Invention		Geology 4, 5.		[<i>Drawing 7</i>]	
and Designing, 3.				Invention	
[<i>Mech. Engineer'g 4</i>]				and Designing, 5.	
				[<i>Mech. Engineer'g 5</i>]	

THESIS.

As a requisite for graduation, each candidate must present an acceptable thesis, embodying the results of a special study. The subject of such study must lie within the field of Mechanical Engineering. The subject must be announced to the President of the University (dependent upon the written approval of the head of the department), not later than the beginning of the second term of the Senior year, and the completed thesis must be submitted not later than the second Saturday before Commencement Day.

COURSE IN ELECTRICAL ENGINEERING.

The object of this Course is to prepare students for the various pursuits in which the applications of electricity are prominent. Physics, especially theoretical and applied electricity, and mechanical engineering are naturally the leading subjects of the Course. General theory is treated in ample breadth, and is tested by experiments in well equipped laboratories. The laboratories are so conducted as to afford the student a degree of facility in the use of instruments and machinery only acquired by continued practice.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FRESHMAN YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 6, 5.		Mathematics 6, 5.		Mathematics 6, 5.	
Chemistry, 5.		Chemistry, 5.		Mechanical Lab'y, 3.	
[<i>Agricult'l Chem. 1</i>]		[<i>Agricult'l Chem. 3</i>]		[<i>Mech. Engineer'g 1</i>]	
Drawing 1, 1.		Drawing 1, 1.		Lettering, [<i>Draw'g 2</i>], 2.	
French 1, } 5.		French 1, } 5.		French 1, } 5.	
or		or		or	
German 1, }		German 1, }		German 1, }	
English 1, 2.		English 1, 2.		English 1, 2.	
Military Drill.		Military Drill.		Military Drill.	

SOPHOMORE YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mathematics 7,	5.	Mathematics 7,	5.	Mathematics 7,	5.
Drawing 3,	3.	Drawing 3,	3.	Drawing 3,	3.
Physics 2,	3.	Physics 2,	3.	Physics 2,	3.
Physics 3,	2.	Physics 3,	2.	Physics 3,	2.
Mechanical Lab'y,	4.	Physics (Lab'y) 5,	4.	Physics (Lab'y) 5,	4.
[<i>Mech. Engineering</i> 1]		English 3,	2.	English 3,	2.
English 3.	2.	Military Drill.		Military Drill.	
Military Drill.		Art of War	2.		

JUNIOR YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Mechanics,	5.	Mechanics,	5.	Strength of Materials, 5.	
[<i>Mech. Engineering</i> 6.]		[<i>Mech. Engineering</i> 6.]		[<i>Mech. Engineering</i> 7]	
Mechanism,	2.	Mechanism,	5.	Mechanical Lab'y,	4.
[<i>Mech. Engineering</i> 3.]		[<i>Mech. Engineering</i> 3.]		[<i>Mech. Engineering</i> 2.]	
Physics 4,	3.	Physics 6,	5.	Physics 6,	5.
Physics 6,	4.	Mechanical Lab'y,	4.	Drawing 6,	5.
Drawing 5,	3.				
Mathematics 8,	2.	[<i>Mech. Engineer's</i> 1.]			

SENIOR YEAR.

FIRST TERM.		SECOND TERM.		THIRD TERM.	
Thermodynamics,	5.	Prime Movers,	5.	Machinery, etc.,	5.
[<i>Mech. Engineering</i> 8]		[<i>Mech. Engineering</i> 9]		[<i>Mech. Engineer's</i> 10]	
Elec. Engineer'g 1,	2.	Elec. Engineer'g 2,	5.	Elec. Engineer'g 2,	3.
Elec. Engineer'g 2,	3.	Elec. Laboratory,	5.	Elec. Laboratory,	5.
Elec. Laboratory,	5.	[<i>Elec. Engineer's</i> 4]		[<i>Elec. Engineer's</i> 4]	
[<i>Elec. Engineer's</i> 4]		Technical Drawing,	3.	Technical Drawing,	5.
Technical Drawing	3.	[<i>Elec. Engineer's</i> 3]		[<i>Elec. Engineer's</i> 3]	
[<i>Elec. Engineer's</i> 3]					

THESIS.

As a requisite for graduation each candidate must present an acceptable thesis embodying the results of a special study. The subject of such study must lie within the field of Electrical Engineering, and must be announced to the President of the University (dependent upon the written approval of the professor in charge), not later than the beginning of the second term of the Senior year. The completed thesis must be submitted not later than the second Saturday before Commencement Day.

THE SCHOOL OF PHARMACY.

STANDING COMMITTEE.

President SCOTT, *Chairman*; Associate Professor KAUFFMAN, *Secretary*; Professors NORTON, BLEILE, KELLERMAN, and HUNT.

COURSE IN PHARMACY.

The aim of this Course is to impart that general and special knowledge which is necessary to the attainment of a high standing in the profession of a pharmacist. The graduates of this Course are fully prepared to pass the State examination required by law for the practice of pharmacy in this and other States.

[Note: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FIRST YEAR.

FIRST TERM.

General Chemistry 1, 4.
Physics 1, 5.

Latin 4, 5.
Military Drill.

SECOND TERM.

General Chemistry 1, 2.
Physics 1, 5.
Latin 4, 5.
Mineralogy, 3.
[*Metallurgy 1,*]
Military Drill.

THIRD TERM.

General Chemistry 2, 4.
Physical Geography, 5.
[*Geology 1*]
Elementary Botany, 5.
[*Botany 1,*]
Latin 4, 2.
Military Drill.

SECOND YEAR.

FIRST TERM.

Pharmacy 1, 3.
General Chemistry 3, 5.
Physiological Botany.
[*Botany 3*] 5.
Physiology 1, 3.
Military Drill.

SECOND TERM.

Pharmacy 1, 5.
General Chemistry 3, 5.
Medical Botany.
[*Botany 4*] 2.
Physiology 1, 3.
Military Drill.

THIRD TERM.

Pharmacy 2, 5.
General Chemistry 3, 5.

Microscopy, 2.
[*Physiology 5*]
Physiology 1, 3.
Military Drill.

THIRD YEAR.

FIRST TERM.

Pharmacy 3, 5.
General Chemistry 4, 5.
General Pathology, 5.
[*Agriculture 3*]

SECOND TERM.

Pharmacy 3, 3.
General Chemistry 4, 5.
Materia Medica, 3.
[*Agriculture 3*]
Prox. Organic Analysis
[*General Chem. 5*] 3.

THIRD TERM.

Pharmacy 3, 5.
General Chemistry 4, 5.
Special Pathology, 3.
[*Agriculture 3*]
Toxicology, 2.
[*General Chem. 5*]

THESIS.

As a requisite for graduation, each candidate must present an acceptable thesis embodying the results of a special study and research. The subject must be announced to the President of the University (dependent upon the written approval of the proper authorities), not later than the beginning of the second term of the third year of the Course, and the completed thesis must be submitted not later than the second Saturday before Commencement Day.

 THE SCHOOL OF VETERINARY MEDICINE.

STANDING COMMITTEE.

President SCOTT, *Chairman*; Professor DETMERS, *Secretary*; Professors WEBER, BLEILE, KELLERMAN, HUNT, and Associate Professor KAUFFMAN.

 COURSE IN VETERINARY MEDICINE.

[NOTE: The *italicized* figure following the name of a study indicates the number of the Course in that subject, a full description of which will be found under that name and number in the "Courses of Instruction," beginning on page 38. Where a bracketed and italicized title follows the name of a study, the description is to be sought under such bracketed title and number. Other figures denote the number of hours per week.]

FIRST YEAR.

FIRST TERM.	SECOND TERM	THIRD TERM.
Veterinary Anatomy, 3.	Veterinary Anatomy, 5.	Veterinary Anatomy, 3.
[<i>Veterin'y Medicine 1</i>]	[<i>Veterin'y Medicine 1</i>]	[<i>Veterin'y Medicine 1</i>]
Physiology 1, 3.	Physiology 1, 3.	Physiology 1, 3.
Histology, 5.	Histology, 5.	Histology 5.
[<i>Physiology 4</i>]	[<i>Physiology 4</i>]	[<i>Physiology 4</i>]
Agricultural	Agricultural	*Agricultural
Chemistry, 1 5.	Chemistry 2, 5.	Chemistry 2, 5.
Military Drill.	Military Drill.	Military Drill.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
General Pathology, 3.	Special Pathology, 3.	Special Pathology, 3.
[<i>Veterin'y Medicine 3</i>]	[<i>Veterin'y Medicine 3</i>]	[<i>Veterin'y Medicine 3</i>]
Pharmacology 3.	Pharmacology, 3.	Obstetrics, 5.
[<i>Veterin'y Medicine 9</i>]	[<i>Veterin'y Medicine 9</i>]	[<i>Veterin'y Medicine 5</i>]
Pharmacy 1, 3.	Compounding Veterin'y Medicines, 2.	
	[<i>Pharmacy 1</i>]	
Surgical Diseases, 5.	Surgical Diseases, 5.	Prin. Horse Shoeing, 3.
[<i>Veterin'y Medicine 4</i>]	[<i>Veterin'y Medicine 4</i>]	[<i>Veterin'y Medicine 6</i>]

Breeds of Live Stock, 4.	Stock Breeding, 4.	Stock Feeding and Hygiene, 4.
[<i>Agriculture 2</i>]	[<i>Agriculture 2</i>]	[<i>Agriculture 2</i>]
Clinic, 6.	Clinic, 6.	Clinic, 6.
[<i>Veterin'y Medicine 8</i>]	[<i>Veterin'y Medicine 8</i>]	[<i>Veterin'y Medicine 8</i>]
Military Drill.	Military Drill.	Military Drill.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM
Special Pathology, and Therapeutics, 3.	Special Pathology and Therapeutics, 3.	General Veterinary Therapeutics, 5.
[<i>Veterin'y Medicine, 3a</i>]	[<i>Veterin'y Medicine 3a</i>]	[<i>Veterin'y Medicine 10</i>]
Bacteriology, 3.	Bacteriology, 3.	Forensic Vet. Med., 5.
[<i>Veterin'y Medicine 7</i>]	[<i>Veterin'y Medicine 7</i>]	[<i>Veterin'y Medicine 11</i>]
Medical Botany, 2.	Medical Botany, 2.	
[<i>Botany 4a</i>]	[<i>Botany 4a</i>]	
Animal Husbandry and Exterior, 4.	Anatomical Labor'ty, 3.	Thesis, 2.
[<i>Agriculture 4</i>]	[<i>Veterin'y Medicine 2</i>]	
Clinical Practice, 6.	Clinical Practice, 6.	Clinical Practice, 6.
[<i>Veterin'y Medicine 8</i>]	[<i>Veterin'y Medicine 8</i>]	[<i>Veterin'y Medicine 8</i>]

THESIS.

As a requisite for graduation, each candidate must present an acceptable thesis, embodying the results of a special study. The subject must be announced to the President of the University (dependent upon the written approval of the proper authorities), not later than the second term of the third year of the Course, and the completed thesis must be submitted not later than the second Saturday before Commencement Day.

* Students coming in under the old requirements for admission will take Elementary Botany five hours a week, instead of the third term's work in Agricultural Chemistry.

The School of Law.

ORIGIN AND LOCATION.

This School of the University originated by resolution of the Board of Trustees, passed June 23, 1891, as follows:

"*Resolved*, That a Law Department be established in the University, and that the fees received from the students in such Department be appropriated for its support."

A committee appointed at the same time drew up the detailed plan of organization, and the first session opened Thursday, October 1, 1891, with thirty-three students.

The regular exercises of the School are at present held in the Franklin County Court House. Three branches of the Common Pleas Court, as well as the Probate Court, are almost constantly in session in this building. The Circuit Court, also, holds its sessions here. Within a half mile of the Court House, and nearer the heart of the city are held the United States District and Circuit Courts, and the State Supreme Court. The City Court and all the Magistrates' offices are within the same distance.

GENERAL PLAN.

It is the purpose of the School to furnish such a legal training as will secure the most favorable judgment of the profession, and such as will fit students for practice in any part of the country. The methods of instruction combine the advantages of all approved systems and appliances—the lecture system, the text-book and recitation system, and the case system. Charts, outlines, analyses, essays, note-books, oral and written lectures, reviews and examinations are used and exercises in drafting contracts, abstracts, conveyances, wills, protests, mercantile contracts, pleadings, indictments, and other legal papers are given, while critiques, briefs, arguments in moot courts, etc., are required. Attention will be given to the study and accurate analysis of leading cases.

The aim is to teach an accurate knowledge of the principles of the Law, and to illustrate the application of these principles to the practical affairs of life—to teach students both to know and to apply the law. The instruction offered includes an undergraduate Course containing two years of nine months each, and a post-graduate Course of one year. The former requires not less than fifteen hours of lecture and recitation work per week, and embraces all the elementary and practical studies necessary for admission to the bar of any State administering the common law. The Graduate Course is designed for those seeking special instruction in a particular line, or desiring to take a course of a more practical character.

REQUIREMENTS FOR ADMISSION.

Applicants for admission to the School of Law must give satisfactory evidence of a good moral character; they must be over eighteen years of age; and no one will be given the degree of LL. B. before reaching the age of twenty years.

The School is open upon the same terms to both sexes and to all persons of whatever race or color, who satisfactorily meet the requirements.

I. FOR THOSE SEEKING A DEGREE.

1. TO THE JUNIOR CLASS:

a. Without Examination. Graduates who submit their diplomas or other satisfactory evidence of having completed a full course and of having received a degree at any university or college of approved standing. Also those who present satisfactory evidence of having completed a course of study equivalent to the work required for entrance to the Junior year in any of the four-year Courses in the Collegiate Department of this University.

b. By Examination. Those seeking a degree, who can not give satisfactory evidence of attainments otherwise, will be examined, and must pass, in the studies (or their equivalents) required for entrance to the Junior year in any one of the four-year Courses in the Collegiate Department of this University.

2. TO THE SENIOR CLASS:

a. By Examination. In the studies required in the Junior year, in addition to the requirements for admission to that year from those seeking a degree.

b. Without Examination. Attorneys-at-law who have been admitted to the Bar of Ohio, or of any State having a requirement for admission to the bar equivalent to that in Ohio; also any one who can show by certificate that he has satisfactorily completed, in some approved law school, work equivalent to that required in the Junior year here, the applicant in all cases to meet the other requirements necessary for admission to the Junior year from those seeking a degree.

II. FOR THOSE NOT SEEKING A DEGREE.

1. TO THE JUNIOR CLASS:

a. Without Examination. Any one admitted to practice law in any State, on presentation of certificate of authority.

Any one who presents satisfactory evidence of having read law for one year.

Any graduate of a collegiate or academic institution, or high school, or any one who has a teacher's certificate, or who presents satisfactory evidence of having completed the preparatory course of any of the approved universities or colleges of the State, or who presents sufficient evidence of having passed a United States Civil Service examination.

b. By satisfactorily passing an examination covering the subjects in which examination is required for teaching in the common schools of the State, or for admission to the United States Civil Service. These branches include Reading, Writing, Arithmetic, Grammar, Composition, Geography and United States History.

2. TO THE SENIOR CLASS:

a. Without Examination in the studies of the Junior year. Attorneys-at-law admitted in Ohio, or in a State having an equivalent requirement; and those presenting certificates showing that they have done equivalent work in some other approved law school.

b. By Examination in the studies of the Junior year, subject to the requirements necessary for admission to the Junior year from those not seeking a degree.

III. IRREGULAR STUDENTS.

In special cases, students who have had part of the studies of the Junior year and part of those of the Senior year, may be examined on whatever subjects they may choose, and may take part of the studies of both years, if the Faculty is satisfied that the applicant can do so to advantage. If a candidate for a degree, the applicant must meet all the other requirements and have all the other qualifications of those seeking a degree.

IV. SPECIAL STUDENTS.

Persons wishing a knowledge of legal principles for business purposes, but not intending to apply for a degree or to take a full course, may be admitted at any time as special students, and may avail themselves of such advantages of the School as they may deem expedient. Their convenience will not be taken into consideration in arranging classes, and they must make satisfactory arrangements as to fees, hours of recitations, etc., with the Dean or Secretary.

ENTRANCE EXAMINATIONS.

Entrance examinations, except for those seeking a degree, will not be technical, the object being to ascertain the results of previous training, and practical capacity to appreciate the technical study of the law. All entrance examinations will be conducted in writing, and will be held on the Monday and Tuesday preceding the opening of each term.

PRIOR READING OF LAW.

Although prior reading of law is not required for admission, it is, nevertheless, very desirable; and it is to be hoped that in the near future this requirement for admission can be made. Before entering the School of Law, careful study of either Walker's American Law, Blackstone's Commentaries, Pomeroy's Municipal Law, Smith's Elements of Law, Powell's Analysis of American Law, Robinson's Elementary Law, or Baird and Babcock's Guide to the Law, will prove of great advantage.

It is believed, also, that all students will be greatly benefited by reading Bishop's First Book of the Law, Hoffman's Legal Studies, Sharswood's Law Lectures, Warren's Law Studies, Washburn's Lectures on the Study and Practice of the Law, or Reed's American Law Studies.

REGISTRATION.

All students are required to register with the Secretary of the School and procure their class cards on the first day of each term, between the hours of 8:30 A. M. and 12 M., or between 1:30 and 4:30 P. M., central standard time.

APPLICATIONS FOR DEGREES.

At the time of registration, all applicants who seek degrees should present their diplomas and certificates of work done. These certificates should state in detail the studies pursued, the text-books used, the amount of work done in each study, the amount of time devoted to it, the date of the examination and the rank or standing of the candidate in it. A copy of the course of study should accompany the certificate in all cases, and must accompany it where equivalents are offered. These statements should also be accompanied by information as to age, occupation, experience, and work done since leaving school.

MATRICULATION.

Each student, on being admitted to the classes, will sign the matriculation book at the office of the President.

FEES AND EXPENSES.

For the amount of tuition, cost of board, books, etc., see page 25. Attention is called to the fact that no student is entitled to be admitted to the work of any class except upon presenting to the instructor in charge, a class card counter-signed by the Secretary of the Board of Trustees, showing that he has paid the tuition fee for the year.

HOURS OF RECITATION.

The hours of recitation are as much as possible outside of the regular business hours of the day, so that students may be in offices if they so desire. The hours of one to two, five to six, seven to nine, all in the afternoon, are usually selected. The course is so arranged that Seniors can attend most of the Junior classes if they so desire.

RULES AND REGULATIONS.

The students will be presumed to be ladies and gentlemen. All are expected to be present at each recitation of the classes in which they are enrolled. Any one absent frequently and without excuse will be admonished, or, in aggravated cases, informed that he cannot be graduated. Furthermore, the Faculty will not hesitate to drop a student from the rolls at any time during the year on becoming satisfied that he is neglecting his work. Every student seeking a degree must be examined in all the work in the whole course.

EXAMINATIONS.

At the end of each term the members of both classes will be subjected to oral or written examinations upon the work of the term. The promotion of a student to full standing in his class at a subsequent term, and his continuance in the School, will be dependent upon the manner in which he passes such examinations. At the end of the Senior year all candidates for graduation will be required to pass satisfactory oral and written examinations on all of the subjects of the Course.

THESIS.

Each candidate for a degree is required to prepare and deposit with the Faculty, at least six weeks before the end of the year of graduation, a thesis of not less than fifteen hundred nor more than five thousand words, exclusive of citations of authorities, upon some subject selected by himself with the approval of the professor giving instruction in that division of law from which the subject is chosen.

DEGREES.

The degree of Bachelor of Laws (LL. B.) will be conferred on all who, being twenty years of age and having met the requirements necessary for entrance to the Junior and Senior year from those seeking a degree, pass satisfactorily the examinations at the close of the Senior year, after having done at least one year's work in the School of Law at the University, and having presented a thesis acceptable to the Faculty.

The degree of Master of Laws will be conferred upon any one who has received the degree of Bachelor of Laws at this University, upon the completion of the studies of the Graduate year, upon satisfactorily passing an examination therein, and presenting a satisfactory thesis, the subject of which has been chosen from the field included in the Graduate year.

CERTIFICATE OF WORK DONE.

Those who have completed the work of any year, but who have not complied with the requirements for a degree, will be given an official certificate, signed by the President of the Board of Trustees, the President of the University, the Dean and the Secretary of the School of Law showing the work done.

ADMISSION TO THE BAR.

Seniors, who are qualified by age and residence, will be expected to take the regular June examination for admission to the bar of Ohio, as their final examination. This examination is conducted by a committee appointed by the Supreme Court of Ohio, and is held on the first Tuesday in June of each year.

COURSE OF STUDY.

JUNIOR YEAR.

Study.	Text Book.	Instructor.	Term	Day.	Hour in day.	No. of weeks.	No. of hours.
Elementary Law.....	Robinson and cases.....	Wilgus.....	1 and 2	Every day	10½ & 4 p. m.	7	70
Elementary Law.....	Blackstone.....	"	2 and 3	"	4 "	10	50
Elementary Law.....	Walker.....	"	1, 2 and 3	"	4 "	14	70
Torts.....	Cooley.....	Nash.....	1, 2 and 3	Tu. Fr.	5 "	28	56
Evidence.....	Greenleaf.....	Keating.....	1, 2 and 3	Tu. Th.	1 "	28	56
Contracts.....	Bishop.....	Randall.....	1, 2 and 3	M. Th.	5 "	36	72
Criminal Law.....	Harris or Russell.....	Huling.....	1, 2 and 3	M. W.	1 "	22	44
Domestic Relations.....	Browne or Schouler.....	Wilgus.....	1, 2 and 3	Every day	4 "	4	20
Agency.....	Mechem.....	S. C. Jones.....	1	Tu. Fr.	7 "	10	20
Bailments.....	Schouler.....	Hunter.....	2 and 3	M. Th.	7 "	22	44
Moot Court.....	Justices' Prac.....	Smith.....	1, 2 and 3	W.	5 "	36	36

SENIOR YEAR.

Partnership.....	Parsons or Bates.....	S. C. Jones.....	2 and 3	Tu. Fr.	7 p. m.	34	34
Sales.....	Tiedeman.....	Hunter.....	1	M. Th.	7 "	14	28
Bills and Notes etc.....	Tiedeman.....	De Witt.....	3	Saturday.	"	10	20
Municipal Corporations.....	Lectures.....	J. P. Jones.....	1	Tu. Fri.	5 "	7	14
Private Corporations.....	Lectures and Beach.....	Collins.....	1, 2 and 3	W.	7 "	36	36
Equity.....	Lectures and Adams.....	Pugh.....	1, 2 and 3	M. W.	5 "	36	72
Real Property.....	Washburn.....	Alurich.....	1, 2 and 3	M. W. Fr.	1 "	36	108
Mortgages and Liens.....	Lectures.....	Aburnethy.....	1, 2 and 3	Saturday.	9:30 A. M.	36	36
Constitutional Law.....	Cooley.....	Knight.....	1	Tu. W. Fr.	4 & 5 p. m.	8	24
State Constitution.....	Lectures.....	Watson.....	2 and 3	Friday.	5 "	22	22
Wills.....	Schouler.....	J. P. Jones.....	1, 2 and 3	Tu. Th.	4 "	36	72
Pleading Com. Law Equity and Code.....	Heard, Barton & Bliss.....	Platt.....	3	Tu. Th.	1 "	10	20
Insurance.....	Richards.....	McEwen.....	3	Fr. or Sat.	"	36	72
Moot Court.....	Common Pleas.....	Smith.....	3	"	"	36	72

Provision is also made for Medical Jurisprudence, Legal Microscopy, and International Law for such as desire to take these studies.

GRADUATE COURSE IN PRACTICE.

Common Pleas Court Practice.....	J. P. Jones.....	1, 2 and 3	Tuesday.	36	36
Probate Court Practice.....	S. C. Jones.....	1, 1 and 2	"	26	26
Office Practice.....	Aldrich.....	2	"	"	"
Interp't'n and Const'n Stat. and Cont'cts.....	Hunter.....	2 and 3	"	12	12
Federal Practice.....	Collins.....	3	"	22	22
Mandamus, Quo Warranto etc.....	J. K. Richards Att'y Gen'l.....	Lectures.	"	10	10

This course will probably be extended the coming year.

GRADUATE INSTRUCTION.

(A) GENERAL SUBJECTS.

Provision is made for Graduate instruction in the following subjects: Contracts, Mercantile Law, Corporations, Railroad Law, Insurance Law, The Law of Real Property, Jurisdiction and Procedure in Equity, Domestic Relations, Admiralty, Roman Law, American Constitutional History, American Constitutional Law, English Constitutional History, English Constitutional Law, Comparative Jurisprudence, General Jurisprudence, Political and Social Science.

The Graduate work in the subjects above named will be conducted in the following manner: At the opening of the University year each student will be required to select three subjects to which the work of the year will be devoted. One of these will be designated the major subject. To this he will be expected to give his best energies, and to make his investigations therein thorough, comprehensive and exhaustive. To the other subjects, known as minors, he will give such attention as his time will permit. The work required in the minor lines will be of a more general character, and, although thorough so far as prosecuted, will be less extended than that of the major subject. By special permission from the Faculty, a student may devote all his time to one subject. Each student will be under the special guidance of the professors in whose departments his subjects lie. He will receive from each full instruction as to the questions to be investigated and as to the nature and direction of his work, and also such individual assistance as may be needed from time to time during the progress of his studies. Periodical reports and examinations upon work assigned will be required, at which times the professor in charge will go over carefully with the student the ground covered since the last report, and make such criticisms and suggestions as may be necessary.

(B) PRACTICE.

A Graduate course in practice has been provided as follows:

Common Pleas and Appellate Court Practice, J. P. Jones, one hour per week through the year.

Probate Practice, S. C. Jones, one hour per week for two terms.

Office Practice, Dr. O. W. Aldrich, one hour per week for one term.

Federal Practice, J. H. Collins, one hour per week for one term.

Interpretation and Construction of Contracts and Statutes, W. F. Hunter, one hour per week for two terms.

Mandamus and Quo Warranto in Supreme Court, Attorney-General Richards, course of lectures.

In addition to the above, students will be expected to elect work with the instructors in the Law Faculty to the extent of two hours per week through the year.

This course will probably be further extended during the year.

Each Student will be required to prepare a thesis upon some question connected with his major subject. This production must be scholarly and exhaustive, and the author must be prepared to defend the positions taken therein.

Graduate students are expected to attend all lectures not in the regular courses. All under-graduate courses are open to graduate students without extra charge.

Graduate instruction covers one year, and actual residence is required.

Those who take the Graduate work, but who are not entitled to a degree, will be given a certificate.

TEXT-BOOKS AND BOOKS OF REFERENCE.

The text-books needed by the student are indicated in the Course of Instruction as above given. These text-books are such as every lawyer will want in his

library after entering upon the practice of his profession. An intimate acquaintance and familiarity with a few good text-books will be of more service than a vague acquaintance with many. Notice will be given at the opening of the year, or of each term, as to what books will be needed for the regular work. The student's labor will be greatly facilitated if he can also have at hand at all times standard works upon the more important branches of the law. Such books will be found essential in subsequent practice. Members of the Faculty will, at any time, aid in making judicious selections. Nearly all of the following list can be found in the University Library, the State Law Library, or the State Library.

Abstracts of Title,—Curwen, Martindale, Moore, Warvelle.

Agency,—Evans, Mechem, Story, Wharton.

American Law,—Bishop, Bouvier, Kent, Minor, Powell, Smith, Walker, Wharton.

Ancient Law,—Maine.

Bailments,—Edwards, Schouler, Story.

Bills and Notes,—Ames's Leading Cases, Bigelow's Leading Cases, Byles, Daniels, Edwards, Parsons, Randolph, Story, Tiedeman.

Blackstone,—Blickensderfer, Broom and Hadley, Chase, Chitty, Cooley, Devereaux's Kinne, Dickson, Dunlap, Hammond, Sharswood.

Carriers,—Angell, Hutchinson, Lawson, Thompson.

Civil and Roman Law,—Amos, Cooper, Domat, Gaius, Grapel, Hadley, Humphrey, Hunter, Justinian, Kauffman, Lindley, Mackeldy, Mackenzie, Montesquieu Moyle, Muirhead, Roby, Rutherford, Sampson, Sandars, Taylor, Thorpe, Wood, Wynne, Wyatt.

Common Law, History,—Crabb, Digby, Hall, Holmes, Reeves, Spence's Equity Jurisprudence of Court of Chancery.

Early Treatises,—Blackstone, Bracton, Britton, Coke, Finch, Fleta, Fortesque, Glanville, Littleton, Perkins, St. Germain, Wooddeson.

Government,—Bryce's American Commonwealth, Fiske's American Political Ideas, Jameson's Constitutional Conventions, Lieber's Civil Liberty and Self-Government, Mulford's The Nation, The Statesman's Year Book, Wilson's The State, Woolsey's Political Science.

Maxims,—Bacon, Broom, Hemming, Morgan, Wharton.

Early Abridgments, etc.,—Bacon, Brooke, Comyns, D'Anvers, Dane, Fitzherbert, Petersdorff, Roile, Viner, Wood. Year books.

Constitutional History and Law, American,—Bancroft, Cooley, Curtis, Farrar, The Federalist, Kent, Miller, Pomeroy, Poore, Sedgwick, Story, Tiedeman, Towle, Von Holst.

Constitutional History and Law, English,—Amos, Bagehot, Chalmers, Creasy, De Lolme, Forsyth, Gneist, Hallam, Hargrave, May, Seldeu, Stubbs, Taylor, Taswell-Langmead.

Contracts,—Addison, Anson, Bishop, Chitty, Langdell, Lawson, Metcalf, Parsons, Pollock, Pomeroy, Smith, Story, Wharton.

Conveyancing,—Abbott, Curtis, Jones, Martindale, McCall, Oliver, Saylor.

Corporations,—Angell and Ames, Beach, Boone, Dillon, Field, Greenough, Morawetz, Taylor, Thompson, Waterman.

Criminal Law,—Bishop, Browne, Desty, Harris, May, Roe, Stephen, Washburn, Wharton, Wilson.

Damages,—Eggleston, Mayne, Sedgwick, Sutherland.

Domestic Relations,—Bishop, Browne, Reeve, Schouler, Smith, Stewart, Wood.

Equity,—Adams, Barton, Beach, Bigelow, Bispham, Pomeroy, Snell, Story.

Equity Pleading and Practice,—Barton, Curtis, Daniel, Heard, Hughes, Mitford, Story.

Evidence,—Abbott, Best, Greenleaf, Phillips, Reynolds, Rogers, Roscoe, Starkie, Stephen, Wharton, Wood.

Insurance,—Arnold, Bliss, May, Phillips, Parsons, Richards, Wood.

International Law,—Gallaudet, Grotius, Hall, Halleck, Phillimore, Puffendorf, Twiss, Vattel, Wharton, Wheaton, Woolsey.

Jurisprudence,—Amos, Austin, Heron, Holland, Lorimer.

Medical Jurisprudence,—Beck, Bucknell and Tukes, Cooper, Dean, Ewell, Fleming, Field, Guy, Ordranax, Taylor, Tidy, Wharton and Stillè.

Mortgages,—Boone, Hilliard, Jones, Pierce, Wiltsie.

Negligence,—Beach, Deering, Saunders, Shearman and Redfield, Wharton, Whittaker's Smith.

Partnership,—Bates, Collyer, Lindley, Parsons, Pollock, Story.

Patents,—Curtis, Merwin, Robinson, Walker.

Personal Property,—Benjamin, Brantley, Hilliard, Schouler, Smith, Story, Williams.

Pleading, Code,—Bates, Bliss, Boone, Nash, Pomeroy, Seney, Swan, Yapple,

Pleading, Common Law,—Chitty, Gould, Heard, Stephen, Swan.

Pleading, Criminal,—Archbold, Bishop, Heard, Wharton.

Pleading, Equity,—Barton, Curtis, Daniel, Heard, Hughes, Tyler's Mitford, Story.

Railways,—Beach, Pierce, Redfield, Rover, Wood

Real Property,—Boone, Jones, Tiedeman, Washburn, Willard, Williams.

Sales,—Benjamin, Blackburn, Baker, Newmark.

Taxation,—Burroughs, Cooley, Desty, Hilliard.

Torts,—Addison, Ames's Cases, Ball's Cases, Bigelow, Bishop, Cooley, Hilliard, Moak's Underhill, Pollock, Weeks.

Uses and Trusts,—Gilbert, Perry, Sanders.

LIBRARIES.

The following libraries are accessible to the student:

1. The University Library, containing more than 11,000 volumes of very carefully selected books upon all subjects. This is quite complete in the more recent standard works upon history and political science, philosophy, etc. A good collection of the leading scientific, technical, and literary magazines and journals is to be found here.

2. The State Law Library, of about 15,000 volumes—the largest and most complete law library in the State. It contains complete sets of the English, Scotch, Irish, Canadian, United States, and State Reports, Statutes and Digests, as well as all the important text-books, and leading periodicals published. This Library is located in the State House, and because of the small space available, must be used with great care and discretion in order that all may be served. It is designed wholly for reference, and students are warned that they must not use the library room as a place for preparing their lessons, and that the text-books found here are to be used for reference only. No student is expected, nor will he be permitted, to use these books instead of providing himself with those required in the course.

3. The State Library, in the State House—a library of general literature, history, science, biography, political and social science, philosophy, etc., comprising some 62,000 volumes. The leading magazines, journals, etc., are also to be found here.

The University Library is open from 9 A. M. to 5 P. M., five days in the week, and on Saturday from 9 to 12 in the forenoon. The State Law Library is open six days in the week, from about 8:30 A. M. to 5:30 P. M., with the exception of about an hour or an hour and a half at noon. The State Library is open six days in the week from 9 A. M. to 12 M., and from 2 P. M. to 5 P. M., and, when the Legislature is in session, from 7 P. M. to 9 P. M.

The City Library also can be used by students under reasonable restrictions.

ADVANTAGES OFFERED IN THE UNIVERSITY COURSES.

Attention is called to the great advantage of attending a law school in close and vital connection with a University affording the means of a liberal, practical, and technical education. Students who are disposed to work faithfully may, at the same time that they are acquiring a technical knowledge of the law, supplement their general education by joining University classes, in departments which they may elect subject to the requirements for admission to such departments without extra charge, save for laboratory work. Not alone from the courses in History and Political Science, or from those in Mental and Moral Philosophy, should this work be selected, but also from the courses in Civil, Mining, Mechanical, and Electrical Engineering, from the courses in Anatomy and Physiology, Economic Geology, etc. To the average practitioner, there will come ten questions involving the principles of surveying or engineering to one of constitutional law, or English history. Not a day passes in the litigation of the courts but that numerous questions of anatomy, physiology, surveying or engineering arise and are to be decided. Particular attention, therefore, is called to the technical courses afforded by the University, which will be open to those in the School of Law who are able to take them without interfering with the required legal work. The following courses are enumerated as being likely to prove beneficial to those who have not had such training as would enable them to take more technical work. The references are to the courses as described on the preceding pages under the Collegiate Department: Botany, 3; Physiology, 1 and 2; Veterinary Medicine, 1; Physics, 8; Civil Engineering, 13; Mine Engineering, 1; Chemistry (Toxicology), 5; Geology, 3 and 4; Philosophy, 1, 2, 3, 4, and 5; History, 1, 2, 3, and 4; English, 1, 2, 8, 9, and 10.

Those who desire any further information concerning this School of the University may address letters to Horace L. Wilgus, Esq., Secretary of the Law School, Ohio State University, Columbus.

 THE PREPARATORY DEPARTMENT.

 STANDING COMMITTEE.

President SCOTT, *Chairman, Ex-officio*; *Associate Professor* DENNEY, *Secretary*; *Professors* DERBY, THOMAS, KNIGHT, BOHANNAN, EGGERS, WILSON, KELLERMAN.

 GENERAL INFORMATION.

This department is under the immediate control of a standing committee of the Faculty, which supervises the studies of students and their relations to the University. The students are subject, in general, to the same rules and regulations as the students of the Collegiate Department. Their attendance at the University is required only during the hours of recitation and of other prescribed college exercises, such as a drill and chapel. The classes are under the supervision of the college professors and are taught by the professors in person or by their assistants.

 REQUIREMENTS FOR ADMISSION.

Candidates for admission to the Preparatory Department must be at least fifteen years of age, and must be provided with credentials of scholarship from their last instructor or the last school with which they have been connected.

The entrance examinations for 1893 will be held at the University on Monday and Tuesday, June 12 and 13, and on Monday and Tuesday, September 11 and 12.

Applicants for admission, holding diplomas or certificates from high schools or academies; and applicants holding teachers' certificates of twelve months, valid when presented at the University, are admitted without examination on the subjects covered by their diplomas or certificates, *provided* written evidence is offered that the amount and quality of the work represented by the diplomas or certificates is equivalent to that required for admission and is sufficient to enable them to continue the work of the Preparatory Department in those subjects.

Other applicants must pass a satisfactory examination in the following subjects:

1. *English*—Harvey's English Grammar or an equivalent; Hill's Elements of Rhetoric or an equivalent; and an essay of about five hundred words, to be written in the presence of the examiner, correct in spelling, grammar, punctuation, capital letters, sentential structure and paragraphing. The subjects will be taken from the following works, with the substance of which—the plots, incidents, characters, etc.—it is expected that the candidate will make himself thoroughly familiar: Shakespeare's Julius Cæsar and Merchant of Venice; Coleridge's Ancient Mariner; Longfellow's Evangeline; Macaulay's Essays on Milton and Addison; Webster's First Bunker Hill Oration; Addison's Sir Roger de Coverley; Scott's Ivanhoe; George Eliot's Silas Marner; Hawthorne's House of the Seven Gables.

For securing the proper preparation, the following course is recommended: 1st, A few lessons and constant practice in the proper use of the Unabridged Dictionaries. 2d, A thorough mastery of the elements of English Grammar. 3d, Daily recitations for at least one term in some such work as Hill's Elements of Rhetoric and Composition. 4th, Weekly exercises in original composition, for at least one year. Scott and Denney's Paragraph Writing is recommended as a handbook. 5th, A careful reading of the works enumerated above.

2. *Geography*—Eclectic Number Three and Geikie's Physical Geography; or equivalents.

3. *History*—Johnston's History of the United States and Myer's General History; or equivalents.

4. *Civil Government*—Fiske, Martin or Macy.

5. *Arithmetic*—Ray's Practical, White, or equivalent.

6. *Algebra*—Wentworth's Element's, complete, or an equivalent.

7. *Latin*—Students preparing for the Collegiate Course in Arts or for the Collegiate Latin Course in Philosophy, must, in addition to the six subjects already mentioned, offer Latin as follows: Pronunciation (the Roman method preferred); Grammar (Allen and Greenough's, revised edition, preferred); Cæsar, the first four books of the *De Bello Gallico*; Cicero, the four orations against Cataline and the orations for Archias and Marcellus; History of Rome, (Pennel's preferred).

8. *German*—Students preparing for the Collegiate Modern Language Course in Philosophy, or for the Collegiate Course in Science must, in addition to the first six subjects mentioned above, offer *Latin* (the same as for those preparing for the Collegiate Course in Arts), or *German* as follows: Otis's German Grammar complete, or an equivalent; *Neue Anecdoten*, Anderson's *Bilderbuch ohne Bilder*, and Heyse's *Drei Novellen*, or an equivalent amount of reading in other German authors.

FEES AND EXPENSES.

For information in regard to fees and other expenses, consult page 24.

EXAMINATIONS AND STANDING.

In accordance with the rules of the Faculty, a written examination of the class is held at the close of each term, and the standing of the students is reported as "passed with merit," "passed," "conditioned," or "failed."

Students conditioned in any study at the close of a term are held for examination in that study during the following term at such time as may be designated by the professor in charge of the department in which the condition was incurred.

At the close of each term students must pass examinations in studies representing at least ten hours a week in order to retain their connection with the Department. If students who have not passed in the requisite amount of work can make good their deficiency by the removal of conditions, they may do so at the beginning of the following term.

Students failing in examinations in studies representing ten hours a week, forfeit their connection with the Department.

Students who are reported at the end of a term, or at the beginning of the following term, as failed in any continuous study, are dropped from the class in which the failure occurs.

Students reported as failed in any examination are required to repeat the study in which they have failed, in the corresponding term of the following year, unless excused by the Committee.

Unexcused absence from any examination is construed as a failure therein.

MILITARY DRILL.

All male students, except those who are specially excused by the President of the University, are required to pursue the study of military science, and are enrolled for drill in the battalion.

ATTENDANCE AND DISCIPLINE.

Four demerit marks are recorded against a student for every unexcused absence from a class or from drill; two for every unexcused failure in recitation, and one for every unexcused tardiness.

When any student has received ten demerit marks, he is admonished by the President.

When any student has received twenty demerit marks, notice thereof is sent to his parent or guardian.

When any student has received forty demerit marks, his connection with the institution is thereby forfeited.

No account of demerits is continued longer than the close of the academic year.

COURSE OF INSTRUCTION.

The course of instruction covers a period of one academic year. Each study occupies five hours a week, or one daily recitation.

Students preparing for the Collegiate Arts or Latin Philosophical Course will take Latin; those preparing for the Modern Language Philosophical Course, or for the Science Course will take either Latin or German. Students preparing for the Collegiate English Course in Philosophy should consult the requirements for admission to the Freshman year of that course (see page 32) and should choose such studies of the preparatory year as will in each individual case most advantageously

meet those requirements. Those preparing for any of the Engineering Courses will be assigned studies in the Freshman year of those courses in place of the Latin or German of the Preparatory Department.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Plane Geometry. (<i>Wentworth.</i>)	Solid Geometry. (<i>Wentworth.</i>)	Trigonometry. (<i>Wentworth.</i>)
Physics. (<i>Gage.</i>)	Physics. (<i>Gage.</i>)	Botany. (<i>Gray.</i>)
Latin (<i>Aeneid and Antiquated.</i>) or	Latin (<i>Aeneid.</i>) or	Latin (<i>Prose Composition.</i>) or
German (<i>Grammar and Prose</i> <i>Die Braune Erica.</i>)	German. (<i>Heine's Harzreise.</i>)	German. (<i>Heine's Harzreise.</i> <i>Licht und Wärme.</i>)

DEGREES CONFERRED IN 1892.

BACHELOR OF ARTS.

CHARLES MELVIS CROOKS,
LAWRENCE WILLIAM GRISWOLD,
SHERMAN HAMLIN GUSS,

EDWARD BANCROFT MCCARTER
ERWIN WALDEMAR SCHUELLER,
MIGNON TALBOT.

BACHELOR OF PHILOSOPHY.

CHARLOTTE LAKE CLAYPOOLE,
IRVINE LAIRD DUNGAN,
ANNA CHRISTINE HOUSTON,
SAMUEL CHARLES KERSHAW,

BERTHA KATHERINE KRAUSS,
MYRON ALPHONSO SMITH,
CARMI ALDERMAN THOMPSON
CARRIE WRIGHT.

BACHELOR OF SCIENCE.

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ROMEO ORPHEUS KEISER,
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WILLIAM HOLLISTER BAKER,

HAMILTON HUTCHINSON RICHARDSON,
FRANKLIN PIERCE STUMP.

CIVIL ENGINEER.

PETER PLATTER EVANS,	RALPH SPENCER GOODELL,
HARRY FRANKLIN FLYNN,	GEORGE EDWARD JOHNSTON,
LORING HAPGOOD GODDARD,	ISAAC LONG STINEBAUGH,
JAMES ROWE TOMLINSON.	

ENGINEER OF MINES.

FREDERICK CHARLES ALSDORF.

MECHANICAL ENGINEER (IN ELECTRICAL ENGINEERING.)

ROBERT HANITCH HASSLER,	PEARL N. JONES,
HERBERT LINCOLN JOHNSTON,	PAUL MARTYN LINCOLN,
PERCY MARTIN.	

GRADUATE IN PHARMACY.

ERNEST BRADFORD,	GEORGE HIRAM MATSON, JR.,
ROBERT LEE GREEN,	GEORGE DOWNER PEARCE,
CHARLES LONGSTRETH STANBERY.	

DOCTOR OF VETERINARY MEDICINE.

HARRY GRANT DAILY,	GEORGE CLIFFORD MAWER,
PAUL FISCHER, B. Agr.,	FRANK ERSKIN MURRAY.

MASTER OF ARTS.

LUCY ADELAIDE BOOTH, B. A.,	EDWIN ERLE SPARKS, B. A.
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MASTER OF SCIENCE.

HENRY SNYDER, B. Sc.,	HARVEY ADAM SURFACE, B. Sc.
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BACHELOR OF LAWS.

LOUIS GRANVILLE ADDISON,	JAMES CALLAM GRAY,
ALBERT HARLAN BATES, M. E.,	WELLINGTON JOHN GRIFFITH, B. A.,
JERRY DENNIS, B. Sc.,	WARNER HARRISON,
JOHN FRANKLIN FERGUS,	FRANK PIERCE JACKSON,
WILLIAM HERBERT PAGE, B. A.	

MASTER OF LAWS.

EMILIUS OVIATT RANDALL, B. Ph.,	CHARLES W. VOORHEES, B. Sc.
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Catalogue.

Collegiate Department.

FACULTY AND INSTRUCTORS.

WILLIAM H. SCOTT, M. A., LL. D.,
PRESIDENT.
 EDWARD ORTON, PH. D., LL. D.,
 SIDNEY A. NORTON, PH. D., LL. D.,
 NORTON S. TOWNSHEND, M. D.,
 STILLMAN W. ROBINSON, C. E.,
 NATHANIEL W. LORD, E. M.,
 SAMUEL C. DERBY, M. A.,
 WILLIAM R. LAZENBY, M. AGR.,
 JOSIAH R. SMITH, M. A.,
 HENRY A. WEBER, PH. D.,
 BENJAMIN F. THOMAS, PH. D.,
 GEORGE W. KNIGHT, PH. D.,
SECRETARY
 HENRY J. DETMERS, M. V. D.,
 R. DANIEL BOHANNAN, B. Sc., C. E., E. M.,
 DAVID S. KELLCOTT, PH. D.,
 C. NEWTON BROWN, C. E.,
 ERNST A. EGGERS,
 ALBERT M. BLEILE, M. D.,
 EUGENE T. WILSON, SECOND LIEUT., U. S. A.,
 WILLIAM A. KELLERMAN, PH. D.,
 THOMAS F. HUNT, M. Sc.,
 GEORGE B. KAUFFMAN, B. Sc.
 REV. JAMES CHALMERS, PH. D., LL. D.,
 BENJAMIN L. BOWEN, PH. D.,
 JOSEPH V. DENNEY, B. A.
 ARTHUR L. WILLISTON, M. E.

GEORGE W. McCOARD, M. A.,
 FREDERICK W. SPERR, E. M.,
 JOSEPH N. BRADFORD, M. E.,
 REV. GEORGE P. COLER, B. A.,
 WILLIAM N. GLADSON, B. M. E.,
 CHARLES W. MESLOH, B. A.,
 JOSEPH R. TAYLOR, B. A.,
 ALVIN D. HAINES,
 CHARLES L. ARNOLD, B. Sc.,

CHARLES B. MORREY, B. A.,
 CLAIR A. DYE, G. PH.,
 LLOYD M. BLOOMFIELD, B. AGR.,
 WILLIAM C. WERNER,
 FRANK J. COMBS,
 EDWARD A. KEMMLER, C. E.,
 WILBUR H. SIEBERT, M. A.,
 HENRY C. LORD, B. SC.,
 JAMES E. BOYD, B. SC.,
 HARVEY A. SURFACE, M. SC.,
 WILLIAM MCPHERSON, Jr., M. SC.,
 WALLACE S. ELDEN, M. A.,
 PAUL FISCHER, B. AGR., D. V. M.,
 VERNON J. EMERY, M. A.,
 EMBURY A. HITCHCOCK, M. E.

STUDENTS.

GRADUATE STUDENTS.

Lucy Adelaide Booth, M. A.....History and English Literature.....Columbus
 B. A. Ohio Wesleyan University.

Charlotte Lake Claypoole, B. Ph.....Physiology.....Columbus.

Charles Melvis Crooks, B. A.....History and Political Science.....Pomeroy.

Frederika Detmers, M. Sc.....Bacteriology.....Columbus.

Irvine Laird Dungan, B. Ph.....English Literature and Rhetoric.....Jackson.

Knott Charles Egbert, B. Ag.....AgricultureTiffin.

Caroline Ellen Furness, B. A.....MathematicsColumbus.
 Vassar College.

M. Bryant Griffith, Ph. D.....PhysicsColumbus.
 Allegheny College.

Ralph Harrold, B. A.....Electrical Engineering.....Delaware.
 Ohio Wesleyan University.

Anna Frances Mullay, B. Ph.....English Literature and Philosophy..Columbus.

Joseph Simmons Myers, B. A.....History and Polit. Science..... Pittsburg, Pa.

Albert N. Ozias, B. Sc.....PhysicsColumbus.

George R. Twiss, B. Sc.....Physics.....Columbus.

Joseph R. Taylor, B. AEnglish Literature and Philosophy..Columbus.

UNDERGRADUATE STUDENTS.

FOUR YEARS COURSES.

SENIORS.

St. Clair Alexander.....	E. E.....	Bridgeport.
Arthur Andrew Beck.....	C. E.....	Columbus.
William Bissing.....	E. E.....	Cadiz.

B. A. Johns Hopkins University.

Edwin Martin Bloom.....	B. Sc.....	Xenia.
Ray Sharp Blinn.....	B. Sc.....	Sparta.
Newton Henry Brown.....	E. E.....	Columbus.
John Hayes Bone.....	B. Sc.....	McConnellsville.
George Victor Clum.....	B. A.....	Thornville.
Jesse Harliaman Coursault.....	B. A.....	Columbus.
Maud Flynn.....	B. Sc.....	Columbus.
Cora Cleveland Gale.....	B. Ph.....	Columbus.
George Carlton Gibbs.....	B. A.....	Racine.
William Lucius Graves.....	B. A.....	Columbus.
Jerome Joseph Green.....	E. E.....	Somerset.
Charles Robert Hamilton.....	B. A.....	Zanesville.
Walter Conger Harris.....	B. Sc.....	Eaton.

B. A. Miami University.

George Edward Hayward.....	C. E.....	Waterford.
Louise Herrick.....	B. A.....	Columbus.
James Stewart Hine.....	B. Sc. (H & F).....	Wauseon.
Sarah Elizabeth Hoel.....	B. Sc.....	Waynesville.
Lyman Harrison Innis.....	B. A.....	Columbus.
William Grant Jenkins.....	C. E.....	Wilmington.

B. A. Haverford College.

Harry Grant Killeffer.....	E. E.....	Medway.
Bertha A. Lamme.....	E. E.....	Pittsburgh, Pa.
Orpheus Dumont Levering.....	M. F.....	Woodview.
Ure LaVerne Mackey.....	E. E.....	Wooster.

B. A. Wooster University.

Frederick William Mathias.....	B. Sc.....	Toledo.
Alice Louise Merrill.....	B. A.....	Columbus.
Frank Case Miller.....	C. E.....	Cedar Hill.
Katharine Elizabeth Morhart.....	B. Ph.....	Middleport.
Robert Orrell Morrison.....	C. E.....	Columbus.
Henry Elvin Moyer.....	B. Sc.....	Latonia.
Roy Vinton Myers.....	C. E.....	Louisville.
Walter Keifer Palmer.....	M. E.....	Columbus.
Edward Benjamin Pedlow.....	C. E.....	Ravenna.
Charles Shrine Powell.....	E. E.....	Cincinnati.
Lawrence Randolph Whetzel Pugh.....	B. Ph.....	Columbus.
William Morrison Ray.....	C. E.....	Carrollton.
Erdus Geroska Robinson.....	C. E.....	Columbus.
Herbert Scott.....	B. Sc.....	Columbus.
Augustine Dawson Selby.....	B. Sc.....	Columbus.
Adam Amos Serva.....	E. E.....	North Industry.

Frank Reed Shepherd.....	B. A.....	Columbus.
Simon Brewster Storer.....	E. E.....	Orangeville.
Arthur Wallace Taylor.....	E. M.....	Columbus.
Arthur Milton Turner.....	E. E.....	Sciotoville.
Willard B. Wood.....	B. Sc.	Columbus.
Edwin Scott Woodborne.....	E. E.....	Uhrichsville.

JUNIORS.

Charles Edward Albright.....	B. Sc.....	Columbus.
Henry Ward Backhaus.....	B. A.....	New Bremen.
Mary Edith Bell.....	B. Ph.....	Columbus.
Mary Blakiston.....	B. Ph.....	Columbus.
Patrick Henry Carroll.....	E. M.....	Houtzdale.
Raymond Cilley.....	M. E.....	Cincinnati.
Edith Daisy Cockins.....	B. A.....	Columbus.
John Comesky.....	B. Sc.....	Norwalk.
William Hawks Coney.....	B. Sc.....	Honolulu, S. I.
Edward Walter Cunningham.....	C. E.....	Columbus.
David Millen Davidson.....	B. A.....	Xenia.
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Edward Frederick Gehrkins.....	E. E.....	Kelly's Isle.
Virgil Guittard.....	B. Sc.....	New Bedford.
Nellie Marie Herlihy.....	B. Ph.....	Chillicothe.
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Sherman Hood.....	B. Sc. (H. & F.).....	Meander.
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Willis H. Jenkins.....	C. E.....	Beloit.
Smilie Jones.....	E. M.....	Columbus.
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William Chalmers Kendall.....	B. A.....	Xenia.
Samuel Thompson Kerr.....	E. E.....	Martins Ferry.
William Henry Knauss.....	B. Sc.....	Columbus.
Robert Miller Lee.....	E. E.....	Columbus.
Theresa Lentz.....	B. Ph.....	Lloydsville.
Rush Emmett Manly.....	E. E.....	Presho.
George Sidney Marshall.....	B. Ph.....	Columbus.
Arthur George Menough.....	E. M.....	Wellsville.
Edwin Denmead Moody.....	B. Ph.....	Dennison.
Mortimer A. Munn.....	C. E.....	Bowling Green.
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Francis Hoyt McGuffey.....	E. E.....	Groveport.
Samuel Galloway Osborn.....	B. Ph.....	Columbus.
Allen Sexton Pearl.....	E. E.....	Berlin Heights.
David Arrel Pence.....	M. E.....	Lowellville.

Wyatt Garfield Plantz.....	B. A.....	Pomeroy.
Edwin H. Porter.....	E. E.....	Ironton.
Hernian R. Postle.....	C. E.....	Harrisburg.
Kenneth F. Postle.....	B. A.....	Harrisburg.
Coles Abel Raymond.....	C. E.....	Wauseon.
Robert Edwiu Safford.....	B. Sc.....	Chillicothe.
Christopher E. Sherman.....	C. E.....	Columbus.
Maude Virginia Smith.....	B. A.....	Columbus.
Harry Merriam Stanbery.....	C. E.....	Triadelphia.
Henry Thew Stephenson.....	B. Sc.....	Cincinnati.
Emmett W. Stull.....	E. E.....	Elkland.
Karl Dale Swartzel.....	B. Sc.....	Lewisburg.
Marion Whitacre.....	B. Sc.....	Marion.
Herbert Oswald Williams.....	B. A.....	Columbus.
William N. Zurfluh.....	E. E.....	Toledo.

SOPHOMORES.

Fredrick Isaac Askew.....	E. E.....	Kausas City, Mo.
Nellie Bachtell.....	B. A.....	Columbus.
David Price Beach.....	C. E.....	Columbus.
Hobart Beatty.....	B. Sc.....	Columbus.
Sanford Bonner Belden.....	E. E.....	Dayton.
Emma Ermina Blesch.....	B. Ph.....	Columbus.
Ulysses Sherman Brandt.....	B. A.....	Greencastle.
Charles A. Bruce.....	B. A.....	Chesterville.
Harriet Griswold Burr.....	B. A.....	Worthington.
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David Arthur Carson.....	B. A.....	Hillsborough.
Agnes Chalmers.....	B. Ph.....	Columbus.
Percy Brooke Cockell.....	E. E.....	Columbus.
Wendell Cummings Cole.....	E. E.....	Columbus.
Curtis Collins.....	E. E.....	Columbus.
Vernon Royce Covell.....	C. E.....	Rock Creek.
Carl Mason Deardurff.....	B. A.....	Columbus.
Lewis Nelson DeVore.....	C. E.....	West Middleburgh.
Renwick W. Dunlap.....	B. Sc. (Agr.).....	Kingston.
Thiaddeus Cox Dunlap.....	E. E.....	Columbus.
Richard Ten Broeck Ellis.....	C. E.....	Youngstown.
William Burton Euo.....	E. E.....	Grauville.
Georgietta Fisher.....	B. A.....	Columbus.
Harry Hinkle Forney.....	M. E.....	Hanover.
Percy Arthur Garst.....	E. E.....	Greenville.
Ida Gatrel.....	B. A.....	Circleville.
Austin P. Gillen.....	C. E.....	Youngstown.
Joseph Clarence Goodman.....	B. Sc.....	Columbus.
Harry Graham.....	E. E.....	Columbus.
Norma Parker Greene.....	B. Ph.....	Rutland.
Frank Haas.....	C. E.....	Dayton.
William Edward Hamilton.....	M. E.....	Zanesville.
Rose Lyttle Hammoud.....	B. Ph.....	Columbus.
Benjaniu Harbage.....	E. E.....	West Jefferson.
Ralph Harrold.....	E. E.....	Delaware
William Edwards Haseltine.....	B. Sc.....	Columbus.

Benjamin Hastings.....	M. E.....	Willoughby.
Harry Haver Hatcher.....	B. Sc.....	Columbus.
Charles Thomas Herbert.....	E. E.....	Columbus.
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Frank Hopkins.....	C. E.....	Columbus.
Fanny Fern Howard.....	B. A.....	Columbus.
Leona Humphreys.....	B. A.....	Columbus.
Guy Llewellyn Ireland.....	M. E.....	Cincinnati.
John M. James.....	E. E.....	Wellsville.
Maud Dora Jeffrey.....	B. Ph.....	Columbus.
Alexander Houston Jones.....	E. E.....	Galveston, Texas.
William John Kappes.....	M. E.....	Zanesville.
Anna Brown Keagle.....	B. Ph.....	Columbus.
Arthur Holcomb Kennedy.....	E. E.....	Columbus.
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Lillian Louise Krumm.....	B. Ph.....	Columbus.
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Charles Milford Lott.....	E. E.....	McCutchensville.
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Frank E. Mercer.....	E. E.....	Wauseon.
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Virgil Owen Moore.....	B. Ph.....	Morrow.
Annie Eliza Morrey.....	B. A.....	Chester Hill.
Ord Myers.....	E. E.....	Louisville.
Robert Dale McCarter.....	E. E.....	Columbus.
James Howard McGregor.....	B. Sc.....	Bellaire.
John Alexander McGrew.....	C. E.....	Columbus.
William Nagel.....	E. E.....	Wapakoneta.
Alvin Scott Neale.....	C. E.....	Milnersville.
Elmer Bennett Palmer.....	B. Sc.....	Columbus.
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Edward Livingston Pease.....	B. A.....	Columbus.
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Hastings Moore Pilcher.....	E. E.....	Athens.
Ernest J. Riggs.....	B. Sc. (Agr.).....	Adgola.
James Bertrand Rogers.....	M. E.....	Youngstown.
William Edward Sarver.....	C. E.....	Canton.
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Edgar Crayton Sedgwick.....	E. E.....	Zanesville.
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Henry Poveliete Smith.....	C. E.....	Madisonville.
Harford Toland Stewart.....	E. E.....	Columbus.
Lee Raymond Stewart.....	C. E.....	Fostoria.
John William Stump.....	C. E.....	Palestine.
Earl Glenn Swartzel.....	B. Sc.....	Lewisburg.
Alexander R. Taylor.....	B. Sc.....	Mt. Victory.
Firman Thompson.....	B. Sc.....	New Carlisle.
Rollin H. Thompson.....	C. E.....	Marion.
Edith Minot Twiss.....	B. A.....	Columbus.
Isaac M. Vorhes.....	B. Ph.....	Unionport.

Joseph James Walsh.....	M. E.....	Columbus.
Lawrence Weiss.....	E. E.....	Chatham.
James Maxwell Welch.....	M. E.....	Uhrichsville.
Oliver Bartlet Welch.....	E. E.....	Uhrichsville.
Arthur Milton Wentworth.....	E. E.....	Hinsdale.
Alva Newton Wilcox.....	E. E.....	Dayton.
Guy R. Williams.....	B. Ph.....	New Vienna.
Samuel Tully Willson.....	E. E.....	Columbus.
Ida Wirth	B. Ph.....	Columbus.
Herman Howard Wolf.....	C. E.....	Canton.

FRESHMEN.

Horace Nelson Abbe.....	E. E.....	Elyria.
Charles P. Alexander.....	E. E.....	Letart Falls.
Harvey Allen	M. E.....	Yellow Springs.
Percy Recd Alsdorf.....	E. M.....	Utica.
Lincoln Elmer Andrews.....	B. A.....	New Salem.
Zoa Belle Baldwin.....	B. A.....	Columbus.
Harry Byron Banning.....	C. E.....	Cincinnati.
Josephine Barnaby.....	B. Ph.....	Columbus.
Victor Hugo Barnd	B. A.....	Fostoria.
Clyde Stanley Bartholomew.....	E. E.....	Newark.
Ira Ambrose Beeghly.....	E. E.....	Dayton.
Sidney Clark Bennett.....	B. Sc.....	Columbus.
Hermin Mathews Biebel.....	E. E.....	Columbus.
Frank H. Blackburn.....	E. E.....	New Vienna.
John Samuel Boggess.....	C. E.....	Greenfield.
William Benjamin Boggess.....	B. Ph.....	Middleport.
Ernest E. Bogue.....	B. Sc. (H. & F.).....	Orwell.
May Brink.....	C. E.....	Columbus.
Edwards Cole Brown.....	E. E.....	Columbus.
George Brown.....	E. M.....	Mineral Ridge.
John Quincy Brown.....	M. E.....	Ironton.
Walter Farmer Browne.....	C. E.....	Columbus.
Daniel Joseph Brumley	C. E.....	Townwood.
Arthur Leslie Buckman.....	E. E.....	Norwalk.
Sherman Emmett Burke.....	C. E.....	Cincinnati.
Charles William Burkett.....	B. Sc (Agr.).....	Thornville.
Robert Metcalf Burns.....	C. E.....	Canton.
Joseph Porter Campbell.....	E. E.....	Bainbridge.
Hugh Stanley Carr.....	E. E.....	Yellow Springs.
Frank Stitt Casey.....	B. Ph.....	Cambridge.
Homer Clarke Catlin.....	C. E.....	Canton.
Hervey Merriam Cheney.....	B. Ph.....	Toledo.
Edwin F. Coddington.....	C. E.....	Conover.
Paul Lane Coleman.....	C. E.....	Lewisburg.
Laura Jewell Connell.....	B. Ph.....	Columbus.
Hugh Lawrence Conway	C. E.....	Bellefontaine.
Sarah F. Cooley.....	B. Ph.....	Columbus.
Eugene Franz Cranz	B. Sc. (Agr.).....	Ira
Delbert Alonzo Crouner.....	B. Sc. (Agr.)	Wellsville.
John Ferguson Cunningham.....	B. Sc. (Agr.).....	Columbus.
Adrian Davenport	B. A	Columbus.

Charles Woolsey Davis	E. M.....	Sandusky.
Oscar Allen Davis.....	E. E.....	Alliance.
Walter Smith Deahl.....	C. E	Columbus.
Andre DeLoffre.....	E. E.....	Columbus.
Samuel M. DeLoffre.....	B. A	Columbus.
Hugo Diemer.....	E. E.....	Cincinnati.
Keut Howard Dillon.....	M. E.....	Fremont.
Maurice Donham.....	M. E.....	Lindale.
Fred Bruen Ernest.....	M. E.....	Springfield.
Clarence Eugene Ferree	C. E	Columbus.
Frederick Fischer	B. A	Columbus.
Oscar Rogers Flynn.....	B. Sc.....	Columbus.
Ralph Morris Forgy.....	B. Ph	Troy.
William Owen Fowler.....	B. Ph.....	Coshocton.
Lee Ambrose Frayer	M. E.....	Greenwich.
William Frederick Genheimer.....	B. Ph.....	Whealersburg.
James Byron Given.....	E. E.....	New Concord.
John Moore Gleason	E. E.....	Roscoe.
George Walter Gourley.....	E. M.....	Utica.
Elliott LeRoy Gyger.....	E. E.....	Alliance.
Arthur Daniel Hamilton.....	M. E.....	Brownsville.
Herbert B. Harrop.....	E. E.....	Columbus.
Arlington Corylle Harvey.....	C. E.....	Opera.
Raymond Brandt Helser	E. E.....	Hilliard.
Charles Michael Henretta	C. E.....	Moundsville, W. Va.
Robert William Henderson.....	E. E.....	Columbus.
Carroll William High.....	C. E.....	Columbus.
Odessa High.....	B. A	West Jefferson.
Bloomfield Hamlet Howard	E. E.....	Auburn Centre, Pa.
Edward Sharpe Hulshizer.....	M. E.....	Columbus.
Henry Moore Humphreys.....	E. E.....	Columbus.
Katie Darlington Huntington	B. A	South Charleston.
Charles Alfred Hyle.....	E. E.....	Columbus.
Orson Frank Jeffrey.....	E. E.....	Columbus.
Charles W. Johnson.....	E. F.....	Columbus.
William Francis Jones	C. E.....	Shandon.
Grace B. Keagle	B. Ph.....	Columbus.
David Elder Kerr.....	E. E.....	Greenfield.
Leona Gertrude Koehne	B. Ph.....	Columbus.
William Korst.....	E. E.....	Chillicothe.
Charles Schwenker Martin Krumm.....	B. Ph.....	Columbus.
Raymond Krumm.....	C. E	Columbus.
Vallie Howard Kuhn.....	E. E.....	Etna.
Walter Victor Titus Landis.....	B. Ph.....	Dayton.
Charles Edward Lane.....	E. E.....	Columbus.
Charles S. Lanman.....	M. E.....	Columbus.
Mortimer William Lawrence	B. Sc. (Agr.).....	Denver, Col.
William Elmer Leonard.....	B. Sc. (Agr.).....	Morrow.
Thomas Kenyon Lewis.....	B. Sc.....	West Lafayette.
Lavallette Lasea Logan.....	E. M.....	Horatio.
Humbert Harlow Loomis.....	B. Sc. (Agr.).....	Deerfield.
George Rusk Love.....	B. A.....	Plainfield.
Clara Esther Luse.....	B. Ph	Columbus.
Arthur W. Madden.....	B. A	Columbus.

Leonard Antony Magruder	B. Ph.....	Marietta.
Edward Duncan Meek	B: A	Glencoe.
Guy Tingley Meek.....	B. Sc.....	Columbus.
John D. Millar.....	B. A.....	St. Pauls.
Burt A. Miller.....	M. E	Canton.
Harry L. Mills.....	C. E.....	New Paris.
James Dwight Mills.....	E. E	Columbus.
Howard Deane Montgomery.....	B. Ph	Martins Ferry.
Frederick Mundhenk.....	B. Ph	Columbus.
Louis Fulton McCreary.....	M. E.....	Wellsville.
Charles Lawrence McIlvaine.....	B. Ph.....	New Philadelphia.
George Bull McNary, Jr.....	C. E	Bradford.
Robert Harry Nesbitt.....	E. E.....	Wheeling, W. Va.
Samuel Donald Newton.....	C. E	Xenia.
George Bertrand Norris.....	C. E.....	Irouton.
Elisha Strong Norton.....	E. E.....	Conneaut.
Harry Ward Nutt.....	M. E	Youngstown.
Harry Clifford O'Bleness	M. E.....	Athens.
William Huffer Ogier	E. M.....	Columbus.
Carl Patterson.....	B. A.....	Chester Hill.
Philip L. Pfarr, Jr.....	B. Sc. (Agr.).....	Minersville.
Josiah M. Phillips.....	B. Sc. (Agr.)	Defiance.
Gertrude Alice Plimmer.....	B. Ph.....	Columbus.
Fred Augustus Powell.....	E. E.....	Jackson.
Carl Pursel.....	C. E	Paulding.
Laura Mary Quinn.....	B. Ph	Columbus.
Charles Anson Radcliffe.....	B. Ph.....	Jackson.
Murray M. Rarick.....	B. Sc. (Agr.)	Thornville.
Robert Browning Reed	E. E	Troy.
William Alden Reed.....	E. E	Lowellville.
Charles Calvin Robinson.....	C. E.....	Alton.
Albert E. Roedelheimer.....	E. E.....	Columbus.
Ralston Russell.....	B. Ph.....	Pomeroy.
Ray Savage.....	E. E.....	Paulding.
Mary Bole Scott.....	B. A	Columbus.
Walter G. Scott.....	E. E.....	Alexandria.
Albert Eugene Sellenings	B. Ph.....	Chillicothe.
Joseph Warren Sellew.....	E. E.....	Cincinnati.
Charles Frederick Shane.....	C. E.....	Uhrichsville.
Charles Birdsall Smith.....	E. E.....	Avondale.
Samuel J. Smith.....	E. E	Cleveland.
Harry H. Suively.....	B. A.....	Mt. Perry.
Thomas Campbell Southard	B. Ph.....	McConnelsville.
Charles E. Spiers	B. Sc.....	Atwater.
Jno. Rudolph Spurrier.....	E. E.....	Chester Hill.
Tom. D. Spybey	E. E.....	Lancaster
Esther Stafford.....	B. A	Columbus.
Julia Steinfeld.....	B. Ph	Columbus.
Charles Curtis Stone	B. Sc.....	Chester Hill.
John Robert Tanner	C. E.....	Palestine.
Ralph Buren Taylor.....	B. A	Central College.
William Allen Tetlow.....	E. M.....	Washingtonville.
Luther B. Thomas.....	B. A.....	Jackson.
James Henry Turpie.....	E. E.....	Columbus.

James Madison Walker.....	E. E.....	Wedonia, Ky.
Frederick William Walker.....	B. A.....	Wedonia, Ky.
Mary Helen Walsh.....	B. Ph.....	Wedonia, Ky.
Philip Emerson Ward.....	B. Ph.....	Willoughby.
Edward Henry Webb.....	E. M.....	Youngstown.
Pearl West.....	E. F.....	Enterprise.
John Bayard Wight.....	C. E.....	Columbus.
Morgan E. Williams.....	E. M.....	Jackson.
Clarence Warren Withoft.....	M. E.....	Dayton.
Roy C. Wolcott.....	B. Ph.....	Conover.
Charles Lyman Wood.....	E. E.....	Youngstown.
Charles Workman.....	B. A.....	Columbus.

SPECIAL STUDENTS.

Horace R. Bailey.....	El. Eng.....	Canal Winchester.
Kate Ruth Blair.....	Science.....	Columbus.
Will Dicus Bayley.....	Mech. Eng.....	Springfield.
Harry Frank Brand.....	Phil.....	Worthington.
Ola Buckman.....	Science.....	Norwalk.
Clara Byers.....	Phil.....	Columbus.
Williams Hunt Carroll.....	Phil.....	Wilmington.
William Lyman Cleland,.....	Civ. Eng.....	Poland.
Bessie Smith Claypoole.....	Phil.....	Columbus.
Maude N. Cockins.....	Phil.....	Columbus.
Monetta Charlotte Cole.....	Phil.....	Columbus.
Ernest K. Coulter.....	Phil.....	Columbus.
Frances Elizabeth Crowell.....	Phil.....	Shepard.
Jessie Davis.....	Science.....	Cincinnati.
Editha Lewis Dann.....	Phil.....	Columbus.
Charles Reuben Darrow.....	Mining.....	Lowellville.
Marie Eckhardt.....	Phil.....	Lowellville.
Horatio Johnson Forgy.....	Arts.....	Forgy.
Dudley Hampton Foster.....	Arts.....	Omega.
Thomas Ewing French.....	Mech. Eng.....	Dayton.
Josephine Garner.....	Phil.....	Columbus.
Jesse Argyle George.....	El. Eng.....	Mansfield.
Addie Gordon.....	Arts.....	Mansfield.
Frank Albert Green.....	Min. Eng.....	Wilmington.
Robert Lee Green.....	Mech. Eng.....	Somerset.
Pearl Merrill Griffith.....	Phil.....	Sabina.
L. B. Haines.....	Min. Eng.....	Alliance.
William Henderson.....	Arts.....	McConnelsville.
Nellie Herrick.....	Science.....	Columbus.
Carl Chase Howard.....	Civ. Eng.....	Wellsville.
Edward Davenport Howard.....	Phil.....	Columbus.
Clara Kaiser.....	Phil.....	Columbus.
Gertrude Stowell Kellicott.....	Phil.....	Columbus.
Charles Frank Keiser.....	Science.....	Clinton, Mo.
Harriett Rebecca Kirby.....	Science.....	Columbus.
Eva S. Knopf.....	Phil.....	Columbus.
Drusilla Kenkade Liggett.....	Phil.....	Columbus.
Mabel Elmira Lisle.....	Phil.....	Columbus.
Robert Reed Miller.....	El. Eng.....	Bryan.

William Hampton Miller.....	Phil.....	Wilmington.
Rose B. Mullay.....	Phil.....	Columbus.
Caleb Henry Oakes.....	Mech. Eng.....	Jackson Centre.
Murray Patrick.....	Science.....	Columbus.
Bert McLavin Patterson.....	Science.....	Sharon, Pa.
Lewis Archibald Robinson.....	Science.....	White Post, Pa.
Lowry Francis Sater.....	Phil.....	Sater.
James Graden Skinner.....	Arts.....	Portersville.
William Edward Sykes.....	Civ. Eng.....	Clarrington.
Clara Catherine Volk.....	Phil.....	Columbus.
Etta Weber.....	Science.....	Columbus.
Milton F. Weston.....	El. Eng.....	Kenton.
Frank Lemuel Wright.....	Phil.....	London.

THREE YEARS COURSES.

COURSE IN PHARMACY.

THIRD YEAR STUDENTS.

Daniel D. Jones.....	Girard.
Edwin Samuel Lee.....	Columbus.
Alexander Michael Steinfeld.....	Columbus.
Engene Larry Tupper.....	Toledo.
Lewis Farwell Voke.....	Rockford.
Edward Allen Wagstaff.....	Niles

SECOND YEAR STUDENTS.

Anna Gertrude Bagley.....	Columbus.
Orsylla Groff.....	Orrville.
Thomas Carlyle Haney.....	Sippo.
Charles W. McGuire.....	Toledo.
Frederick H. Ward.....	Mt. Vernon.

FIRST YEAR STUDENTS.

Eula Agler.....	Columbus.
Irving Sylvester Bretz.....	Tiffin.
Samuel Omar Barwick.....	West Alexander.
Major Lee Briggs.....	Chillicothe.
Robert Fischer.....	Columbus.
Sherman Lee Harvey.....	Harrisburg.
Edwin J. Koontz.....	Wadsworth.
Oliver Wendell Lindsey.....	Columbus.
Ambrose Midelton.....	Lancaster.
Cora Idella McFadden.....	Columbus.
August Odebrecht.....	Columbus.
Lucy Winchell Pine.....	Washington C. H.
Milton Robb.....	Columbus.
Rollin Seymour.....	Columbus.

George Searight Sheldon.....	Westerville.
Burton Giffin Smith.....	Fredericktown.
Eustace Elden Southard.....	McConnellsville.
Harry Nelson Young.....	Columbus.

SPECIAL STUDENTS.

Ernest Bradford.....	Columbus.
George Hiram Matson	New Holland.

COURSE IN VETERINARY MEDICINE.

THIRD YEAR STUDENTS.

Franklin Edgar Early.....	Johnsville.
Arnett Harbage	West Jefferson.
William Vinton Lusk.....	Gageville.
Maurice Hanson Mendenhall.....	West Elkton.
Nathaniel Burton Smith.....	Basil.

SECOND YEAR STUDENT.

Sidney Thomas Knight.....	Columbus.
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FIRST YEAR STUDENTS.

Frank Alexander Hamilton.....	Columbus.
Rolla Normau Mead.....	Grand Rapids.
Emmet C. Nelson.....	Dexter.
Norman C. Powell.....	Damascus.
Charles Warner Tanner.....	Palestine.

TWO YEARS COURSES.

SHORT COURSE IN AGRICULTURE.

SECOND YEAR STUDENTS.

Manuel Grant Aumend.....	Delta.
William B. Evans.....	Newark.
I. T. Reynolds Hill.....	Berlin Heights.
Frederick Priest.....	Newark.

FIRST YEAR STUDENTS.

Samuel Dana Ayers.....	Hartsgrove.
Worthington H. Birney.....	Tappan.
Aaron S. Brown	Circleville.
Alvah Miller Cromley.....	Ashville.
John Thomas Daniels.....	Toronto.

Charles A. Davenport.....	Whistler.
Delmar J. Farnsworth	Waterville.
Frederick Charles Geckler.....	Beebetown.
A. M. Grant	Columbus.
William Clarence Hamilton.....	Brownsville.
John Hoyt Harter.....	Lewis Centre.
William Forest Hunter.....	Columbus.
Franklin H. Kerr.....	Monclara.
Frank Joseph Kohls.....	Ottawa.
Vernon W. Lee.....	Orland.
William Cleland McCullough.....	Bucyrus.
Charles Nicholson.....	Plattsburg.
Noyes Marvin Parrett.....	Madison Mills.
Charles Amos Phinney.....	Columbus.
Frank Reuhlen.....	New California.
James C. Shaw.....	Newark.
Burr H. Slater.....	West Andover.
Merrill S. Taylor.....	Urbana.
W. Dow Wagner.....	Kenton.
Wallace J. Walker.....	Emerson.
Richard Sedgwick West.....	Rix's Mills.
Juan M. Ziegler.....	Canton.

SHORT COURSE IN MINING.

SECOND YEAR STUDENTS.

Arthur Boyd.....	Fall Brook, Pa.
John Brown	Harkness, Kas.
James Scott Herron.....	Walker's Mills, Pa.
Henry Laviers.....	Glen Roy.
Edwin Andrew Newton.....	Jeffries, Pa.
Edwin Robert Phillips	Lanaconing, Md.
John Quigly.....	Westville, Pa.

FIRST YEAR STUDENTS.

Joseph Ellwood.....	Frontenac.
Robert Francis McKay.....	Coal Glen, Pa.
Robert Quigley.....	Westville, Pa.
John Bartholomew Ryan.....	DuBois, Pa.
David Charles Thomas.....	New Straitsville.

The School of Law.

FACULTY.

WILLIAM H. SCOTT, M. A., LL. D.,
PRESIDENT.

MARSHALL J. WILLIAMS.
DEAN.

GEORGE K. NASH, B. A.,

DAVID F. PUGH,

I. N. ABERNETHY,

DAVID K. WATSON, B. A., LL. B.,

JAMES H. COLLINS,

O. W. ALDRICH, LL. D., D. C. L.,

M. G. EVANS,

J. PAUL JONES, B. A.,

E. N. HUGGINS,

S. C. JONES, LL. B.,

RUTHERFORD H. PLATT, B. A., LL. B.,

E. O. RANDALL, B. PH., LL. M.,

JACOB. A. McEWEN, LL. B.,

GEORGE W. KNIGHT, PH. D.,

DAVID S. KELLICOTT, PH. D.,

W. F. HUNTER,

H. L. WILGUS, M. Sc.,
SECRETARY.

J. H. DYER, LL. B.

Students.

GRADUATE STUDENTS.

Jerry Dennis, L. L. B., Attorney.....	Columbus
Ohio State University.	
John Franklin Fergus, L. L. B., Attorney.....	Columbus
Ohio State University.	
Frank H. Gale, L. L. B.....	Columbus
University of Michigan.	
James Callam Gray, L. L. B., Attorney	Columbus
Ohio State University.	
Frank Pierce Jackson, L. L. B., Attorney.....	Columbus
Ohio State University.	
Franklin Rubrecht, Attorney.....	Columbus

SENIORS.

William Ross Alban.....	Steubenville
Albion Joseph Andrews B. S.....	Zanesville
Ohio Wesleyan University.	
Albert Arlington Clay, B. A.....	Hicksville
Tri-State Normal College.	
Ira Crawford, Jr., B. S.....	Dayton
Denison University.	
David Edwin Daniels, B. Ph.....	Newark
Denison University.	
Carl Gregg Doney, B. S.....	Columbus
Ohio State University.	
Peyton Randolph Emery.....	London
William Meriden Hill.....	East Liverpool
Charles Delnow Hopkins, B. A.....	Downington
Ohio Wesleyan University.	
Richard Jones, B. A.....	Columbus
Harvard University.	
Scott Dix Kenfield.....	Woodstock
James Lincoln Leonard, B. S.....	Welcome
Ohio Normal University.	
Orla Addington Macy.....	Columbus
Roscoe Jay Mauck.....	Gallipolis
George Henry Moffett.....	Arcadia
Samuel Morrison.....	Columbus
Earl Harley Perkins.....	Wellington
George Washington Rhodes.....	Columbus
Lydora Olivia Sandoe.....	Canal Winchester
David Barton Sharp.....	Columbus
Jesse Worthington Snider.....	Bas1
Charles Irvin Stouffer.....	Columbus
Edmund E. Tanner.....	Palestine
Arthur Robert Warren.....	Columbus
Edgar Lynn Weinland, B. Ph.....	Westerville
Otterbein University.	
Eugene Trimble Wilson, Lieut. U. S. A.....	Columbus
U. S. Military Academy.	

George Howard Withey.....	Sandusky
William Van Horn Wright.....	Harrisburg
Cyrus Elmer Yohe.....	Nevada

JUNIORS.

James Marion Butler, B. A.....	Carmel
Ohio Wesleyan University.	
William Abraham Byal, M. D.....	Findlay
Cincinnati College of Medicine.	
Alfred Cahen.....	Allegheny, Pa
Charles Francis Cain.....	Urbana
William Hunt Carroll, M. A.....	Wilmington
Haverford College.	
Henry Gilroy Cartwright.....	Wilmington
John Lodwick Davies.....	Columbus
Joseph James Devlin.....	Bowling Green
Florin Atwood Follin.....	Darlington
Frederic Cohoon Gladden.....	Columbus
Joseph Clarence Goodman.....	Columbus
Henry Hubbell Hawkins.....	Eaton
George Robert Hedges.....	Urbana
Ferdinand Henry Heywood.....	Wapakoneta
Edward Davenport Howard.....	Columbus
William Hampton Miller.....	Wilmington
Edward Bancroft McCarter, B. A.....	Columbus
Ohio State University.	
Seth Linton McMillan.....	Wilmington
William Borland Nevin.....	Dayton
William Henry Seeds.....	Columbus
Edward Patrick Speidell.....	Hanoverton
Charles Flack Steele.....	Columbus
Russell Denig Swinehart.....	Adelphi
Grant Alexander Warren.....	Columbus
Harry Bright Weaver, B. A.....	Nebraska
Ohio Wesleyan University.	
Ellsworth Louis Whitlaw.....	Harrisburg

SPECIAL STUDENTS.

Lincoln Elmer Andrews, Attorney.....	New Salem
Robert Mauck Switzer.....	Gallipolis

Preparatory Department.

SECOND YEAR.

Arthur Evert Addison.....	Newton
Edgar Sidney Aldrich	Clintonville
J. Barrett Alger.....	Portsmouth
James Way Allbritain	Columbus
Lucy R. Allen.....	Columbus
Lucius Buckley Andrus.....	Columbus
James Albert Auld.....	Columbus
Clifford White Bailey.....	Columbus
Frank Lincoln Bailey	Chester Hill
Austin Guy Baldwin.....	Columbus
Miner Barcus	Columbus
Charles Gerald Beumler.....	Columbus
Frank Tilden Boesel.....	New Bremen
Charles G. Bond.....	Columbus
George Washington Bope.....	Pleasantville
Gideon S. Borden	Sugar Valley
John William Braun.....	Columbus
Hasley Brelsford.....	Christiansburgh
Harold Warner Brown.....	Oberlin
James Park Brown.....	Union Station
Henry Diedrich Bruning.....	Columbus
John Isaac Burdge.....	Columbus
Dora Van Buren Burkett.....	Thornville
George W. Burrell.....	Cleveland
Chambers Baird Campbell.....	Ironton
Albert Claypoole	Columbus
Charles Clinton Connell	New Lisbon
Martin Vickers Copeland	Columbus
Harry G. Courtney	Columbus
Carson Wiley Danron.....	Gallipolis
Homer Allen Dawley	Chillicothe
Charles Edward Dotson.....	Lithopolis
Jay Jerry Dunn	Mt. Gilead
Edward Dunnick	Columbus
Guy Carlton Fergus.....	Tadmor
Stanley Homer Ford.....	Columbus
Frederick Hugh Fox.....	McConnellsville
Arthur Neeves French	Cincinnati
Edward L. Fulmer.....	Defiance
Thomas Basil Gaddis.....	Martinsville
Edwin Raymond Ganson	Columbus
James Allen Geissinger	Columbus
Edgar Allen Gilbert... ..	Alliance
Martha B. Glotfelter.....	Trebein
Cyrus Walter Grandstaff.....	Columbus
Bernard Frank Green.....	Columbus
John Upton Gribben.....	Ulrichsville

George Gogle.....	Columbus
James F. Hardman.....	Ligourney
Emery Wayland Harvey.....	Opera
Thurel L. Hicks.....	Washington C. H.
Charles Hoffman	Greenup
Ralph William Holmes.....	Columbus
Homer Curtis Howard.....	Columbus
Thomas Jonathan Howells.....	Bridgeport
Sterling William Hubbard.....	Columbus
Imogene Ingram.....	Columbus
Charles Alfred Jerome.....	Huntsburg
Erasimus Bernarde Jones.....	Columbus
Ellis Oliver Jones, Jr.....	Columbus
James Elijah Judd.....	Columbus
Rannells Watson Knauss.....	Columbus
Harry Waldo Kuhn	Etna
Eli Mace Lisle	Columbus
Arthur Emanuel Loeb.....	Columbus
John Fred Loehr	Franklin
John A. Long.....	Thornville
Charles Henry Lott	Columbus
John H. Mathers.....	Conover
Le Roy Maxwell.....	Columbus
Bert C. Miller.....	Mt. Gilead
William F. Miller.....	Springfield
Addison Pearson Minshall.....	Chillicothe
Rea White Morgan....	Clarksburg
Frank F. Morton.....	Columbus
George L. Mott	Lancaster
Percy A. McClain	Columbus
William C. McConnell.....	Columbus
William Francis McCormick.....	Columbus
Annis McLaughlin.....	Columbus
*Eva Ruckle Needels.....	Groveport
Walter Collins O'Kane.....	Columbus
Walter Lee Pausch	Columbus
Abby Slocum Putnam	Columbus
Herbert A. Rice	Columbus
Bessie Mayes Rickey.....	Columbus
Martha Kenner Roberts	Columbus
Andrews Rogers.....	Columbus
Robert Murray Roney.....	Columbus
Robert Daugherty Roy.....	Glen Roy
William Allen Roy	Glen Roy
Lawrence Andress Sackett.....	Columbus
Ernest Scott.....	Columbus
Walter S. Scully.....	Etna
Earl H. Seiter	Columbus
Stanley Rush Sharts	Dayton
Herbert Emerson Sinead	Savannah
Ed. T. Smith.....	Holden
Wilbur Ewing Smith.....	Jackson
Aleta Snyder.....	Tiffin

*Deceased.

Charles F. Sprague.....	Wapakoneta
May Hendron Stimmel.....	Columbus
Russell Strader.....	Shadeville
William Henry Swisher.....	Campbellstown
Edward Reynolds Tarr.....	Willsburg
Arthur Buren Taylor.....	Central College
Fred Laut Travis.....	Pana, Ill.
Carl Elliott Truesdell.....	Columbus
Edward Harry Ungemach.....	Zanesville
Harry J. Walker.....	Troy
Charles Wilton Watt	Barnesville
Kella Whims.....	Columbus
Edwin Forrest Mead Wilcox.....	Columbus
Lloyd T. Williams.....	Jackson
George Benton Wolfe	West Alexandria
William Blanchard Woodbury.....	Columbus
Roland Yoder.....	Wooster
William Alfred Young.....	Cuyahoga Falls

FIRST YEAR.

Edna Armstrong.....	Columbus
Mary H. Brown.....	Columbus
Josephine Ethella Caldwell.....	Greenfield
Zaidee Ara Chapin.....	Columbus
Richard E. Cole.....	Columbus
William Marcus Cole.....	Peru
Anna Ben Comly.....	Columbus
John B. Conard.....	Barnesville
David Lodwick Davies.....	Columbus
Delbert Losson Davis.....	Baltimore
Thomas Herbert Dickinson.....	Columbus
Melvin Dresbach.....	Kingston
Frank Emmett Duffield.....	Lima
Mary Edith Dumm.....	Columbus
Joseph William Tell Duvel.....	Wapakoneta
Grace Coler Finley.....	Malta
William Foster.....	Higby
Carl LeRoy Gale.....	Columbus
Henry Wilson Geissinger.....	Columbus
Philip Arnold Gibbs.....	Racine
George John Gruch.....	Columbus
Claude Bernard Guittard.....	New Bedford
Florence Danford Harvey.....	Opera
Kent W. Hughes.....	Lima
Mertie B. Knopf.....	Columbus
Lena Gertrude Lamm.....	Pittsburgh
Andrew M. McDonald.....	Columbus
William McLaughlin.....	Columbus
Walter F. McMillan.....	Wilmington
Henry Curtis Moore.....	Washington C. H.
Blanche Moss.....	Columbus
James M. Naughton.....	Columbus
George Hugh Neiswender.....	Grove City

William Renfrew Nicholas.....	Columbus
Lulu May Orr.....	Brownsville
Anna Jane Patterson.....	Columbus
Harry Elvington Phillips.....	Conneaut
Anna Dickson Prall.....	Columbus
Stanley D. Pugh.....	Columbus
DeVolson Reed	Columbus
Benjamin Waddle Sebring.....	Columbus
George Ira Sharp.....	Millersburg
Carey Lucas Shuck.....	Vanlue
Olive Shurtz.....	Columbus
William Albert Smith.....	Chillicothe
William Ralph Sprague.....	Reynoldsborg
Albert Stritmatter.....	Columbus
Fred Porter Tarbox.....	Hilliard
Frank Raymond Thrall.....	Columbus
Josephus Howard Tilton.....	Jelloway
James Gulick Westwater.....	Columbus
Mabel G. Whitaker.....	Columbus
Frank Elbert Wilson.....	Hardin
Raymond B. Wilson.....	Bowersville
Dallas Abram Young.....	Gratis
Joel Edwin Young.....	Gratis

IRREGULAR PREPARATORY.

Clarence Maywood Addison.....	Newton
Caroline Woods Bassil.....	Clarksburg, W. Va.
Nathan Llewellyn Burner.....	Columbus
Reed Haskil Game.....	Canal Winchester
David Mathias Griffith	Kecksburg
Harry P. Junk.....	Frankfort
Alice Urilla Lawyer.....	Columbus
Harriet Linton.....	Columbus
Rachael Linton.....	Columbus
Frank F. Marquard.....	Dayton
Cora Etta Pflaumer.....	West Union
Burt Durell Powleson.....	Newcomertown
Zella Vina Robinson.....	Columbus
Walter J. Sears.....	Chillicothe
Edward Snyder.. ..	Kent
James William Tarbell.....	Georgetown

Summary of Students.

COLLEGIATE DEPARTMENT.

Graduate Students.....	14
Undergraduate Students—	
Four Years Courses:	
Seniors.....	48
Juniors.....	60
Sophomores	100
Freshmen.....	161
Special Students.....	52
	<hr/> 421
Three Years Courses:	
Course in Pharmacy.....	31
Course in Veterinary Medicine	11
Two Years Courses:	
Short Course in Agriculture.....	31
Short Course in Mining.....	12
	<hr/> 520

THE SCHOOL OF LAW.

Graduate Students.....	6
Seniors.....	29
Juniors.....	26
Special.....	2
	<hr/> 63

PREPARATORY DEPARTMENT.

Second Year.....	119
First Year.....	56
Irregular.....	16
	<hr/> 191
	<hr/> 774
Counted twice.....	4
Total.....	770

GENERAL PROGRAM AND TIME-TABLE

—FOR 1892-93—

MORNING.

FIRST HOUR.

Botany 3; (5-5-5)	Civ. Eng. 9; (0-0-5)	Elec. Eng. 3; (3-3-5)	English 1; (2-2-2)	English 9; (3-3-3)	French 1; (5-5-5)	French 2; (3-3-3)	Geol. 1; (5-0-0)	Greek 2; (3-3-3)
Hort. 2; (5-5-5)	Metal. 9; (0-0-5)	Mech. Eng. 6, 7; (5-5-5)	Min. Eng. 5; (5-5-5)	Math. 5; (3-3-3)	Math. 7; (5-5-5)	Physics 1; (0-5-5)	Physiology 2; (0-5-0)	Physiology 2; (0-5-0)
Physiology 5; (0-0-2)	Polit. Sci. 2; (W. & F.) (2-2-2)	Polit. Sci. 3, 4; (2-2-2)	Vet. 1; (3-5-3)	Vet. 3; (5-5-5)	Zool. 5; (0-0-3)	I Prep. Ger.; (5-5-5)	II Prep. Math.; (5-5-5)	II Prep. Math.; (5-5-5)
II Prep. Phys. Geog.; (5-0-0)	II Prep. Physics. (0-5-5)							

SECOND HOUR.

Ag. Chem. 1, 2, 3; (5-5-5)	Astron. 1; (0-0-5)	Civ. Eng. 10; (0-0-5)	English 8; (2-2-2)	French 4; (3-3-3)	Greek 3; (3-3-3)	Gen. Chem. 1, 2; (4-2-4)		
Geol. 2; (5-5-0)	Hort. 1; (3-3-2)	Math. 4; (5-5-5)	Mech. Eng. 8, 9, 10; (5-5-5)	Metal. 1, 2; (0-3-3)	Metal. 9; (5-2-0)	Phar. 1, 2; (3-5-5)		
Physics 2; (3-3-3)	Vet. 4; (5-5-0)	I Prep. Math; (5-5-0)	II Prep. Latin; (5-5-5)	II Prep. Ger.; (5-5-5)	I Prep. Civ. Gov. (0-0-5)			

THIRD HOUR.

(10:15) Botany 1; (0-0-5)	Civ. Eng. 6, 8; (0-5-5)	Draw. 3; (3-3-3)	English 2; (2-2-2)	English 3; (0-5-0)	History 3; (3-3-3)	History 4; (2-2-2)	Latin 3. (3-3-3)	
Math. 3; (0-5-0)	Math. 6; (5-5-5)	Mech. Eng. 3; (2-5-3)	M. & W. (2-2-2)	Metal. 4; (5-5-0)	Physics 1; (0-5-5)	Physics 3; (2-2-2)	Physics 4; (3-3-3)	
Zool. 1; (3-3-3)	Vet. 8; (0-6-6)	I Prep. Botany; (0-0-5)	I Prep. Hist.; (0-5-0)	II Prep. Physics. (0-5-5)				
(10:30) French 1; (5-5-5)	German 1; (5-5-5)	German 6; (Saturdays)	Latin 4; (5-5-0)	Math. 1; (5-5-0)	Math. 2; (5-5-5)		Math. 5 (3-3-3)	
Phar. 3; (5-3-5)	Physiology 1; (3-3-3)	II Prep. Math.; (5-5-5)	II Prep. Phys. Geog. (5-0-0)					

NOON HOUR.

Astron. 2; (0-3-3)	Civ. Eng. 7, 9; (5-5-5)	Elec. Eng. 1; (2-0-0)	Elec. Eng. 2; (3-5-3)	Gen. Chem. 5; (1-2-3)	Gcol. 4; (0-5-0)	Greek 4; (3-3-3)
Math. 8; (3-0-0)	Mech. Eng. 4, 5; (3-0-5)	Phil. 1, 2; (3-3-3)	Polit. Sci. 1. (2-2-2)			

AFTERNOON.

FIRST HOUR.

Ag. 3; (3-3-3)	Ag. 4; (4-1-4)	Civ. Eng. 1; (5-0-0)	Civ. Eng. 2; (0-0-5)	Civ. Eng. 3; (5-0-0)	Civ. Eng. 4; (0-3-0)	Civ. Eng. 5; (0-0-3)	Botany 4; (0-2-0)	French 1; (5-5-5);
German 5; (3-3-3)	Greek 1; (5-5-5)	History 1; (2-2-2)	Math. 6; (5-5-5)	Metal. 7, 8; (3-0-5)	Min. Eng. 1, 2, 3; (5-5-5)	Vet. 6; (0-0-5)	I Prep. Latin (5-5-5)	

SECOND HOUR.

Ag. 1; (3-3-3)	Botany 2; (2-2-2)	English 7; (W. & F. 2-2-2)	English 10, 11; (3-3-3)	German 3; (5-5-5)	Latin 1; (5-5-5)	Math. 4; (5-5-5)	Math. 7; (5-5-5)	Min. Eng. 4; (5-0-0)	Vet. 2; Vet. 5; (0-3-0) (0-0-5)
Vet. 7; (3-3-0)	I Prep. Civ. Gov.; (0-0-5)	I Prep. Rhetoric; (5-0-0)	I Prep. Eng. Class.; (Tu. 1-1-1)	II Prep. Eng. Class.; (Tu. 1-1-1)			I Prep. Hist.; (0-5-0)	II Prep. Math. (5-5-5)	

THIRD HOUR.

Ag. 2; (4-4-4)	English 1; (M. & W. 2-2-2)	English 1; (Tu. & Th. 2-2-2)	French 3; (W. & F. 2-2-2)	German 2; (2-2-2)	German 4; (3-3-3)	History 2; (3-3-3)	Latin 2; (5-5-5)
Phil. 3, 4; (3-3-3)	II Prep. Eng. Class. (Th. 1-1-1)						

NOTE 1.—Figures following above subjects are the catalogue numbers of the courses of study. Consult the catalogue, under these numbers, for details. The figures beneath the subjects represent the number of hours per week per term.

NOTE 2.—Concerning laboratory hours, and studies not on this program, consult the professors in charge.

NOTE 3.—Three-hour studies come on Monday, Wednesday and Friday; two-hour studies, on Tuesday and Thursday, unless otherwise stated above.

Alumni.

ALUMNI ASSOCIATION.

OFFICERS FOR 1892-93.

M. N. MIX, '85, Pittsburgh, Pa.....	<i>President.</i>
W. W. KEIFER, '86, Springfield.....	<i>Vice-president.</i>
WILLIAM McPHERSON, '87, Columbus	<i>Secretary.</i>
C. L. ARNOLD, '90 Columbus,.....	<i>Treasurer.</i>
C. W. DELAMATER, '84, Omaha, Neb	<i>Orator.</i>
A. N. OZIAS, '89, Columbus.....	<i>Alternate.</i>

COMMITTEE ON COLLEGE AFFAIRS.

F. W. SPERR, '83, Columbus.....	Term expires 1894.
C. P. SIGERFOOS, '89, Baltimore, Md.....	“ “ 1895.
W. T. MORREY, '88, Hoboken, N. J.....	“ “ 1896.
GEO. R. TWISS, '85, Columbus.....	“ “ 1897.

List of Alumni.

1878.

Charles Henry Dietrich, B. Sc., Hopkinsville, Ky., superintendent of city public schools.

Walter Angus Dun, B. Sc., M. D., died Nov. 7, 1887.

Ferdinand Howald, B. Sc., Rush Run, W. Va., manager of mining operations.

Curtis C. Howard, B. Sc., M. Sc., 115 Jefferson avenue, Columbus, O., professor of chemistry in Starling Medical College.

John Franklin McFadden, B. A., 222 E. Long st., Columbus, O., attorney-at-law.

Arthur Bailey Townshend, B. Sc., M. D., 22 W. 32d street, New York, N. Y., physician.

1879.

J. Scott Humphrey, B. Sc., Findlay, O., civil engineer.

Amasa Brown McMackin, B. Sc., died May 22, 1891.

M. Frank Morrison, B. A., Mrs. S. H. Short, E. 9th avenue, Cleveland, O.

W. F. Noble, B. A., Tiffin, O., attorney-at-law.

Henry Snyder, M. Sc., Oxford, O., professor of physics, Miami University.

Robert S. Towne, B. Sc., E. M., 20 Nassau street, New York, N. Y., president Mexican Northern Railway.

1880.

Edwin E. Corwin, B. A., 89 E. Fifth avenue, Columbus, O., attorney-at-law.

Arthur Cunningham, B. A., 107 Lincoln st., Columbus, O., book-keeper.

Hiram D. Gregory, E. M., Louisa, Ky.

Paul Jones, B. A., Columbus, O., attorney-at-law, city solicitor of Columbus.

J. H. McCormick, M. E., West Fulton street, Columbus, O., civil engineer.

Sidney H. Short, B. Sc., E. Ninth ave., Cleveland, O., electrical engineer.

Florizel Smith, B. A., 106 S. High st., Columbus, O., attorney-at-law.

Alice Margaret Townshend, B. A., Mrs. Chas. Wing, Bement, Ill.

J. C. Ward, B. A., Painesville, O., clerk of court.

1881.

Josephine M. Bates, B. Ph., Mrs. Floizel Smith, 106 S. High st., Columbus, O.

W. K. Cherryholmes, B. Sc., M. D., Millersburg, O., physician.

Charles Montgomery Lewis, B. A., care "The World," New York, N. Y., journalist.

David O'Brine, B. Sc., M. Sc., E. M., D. Sc., M. D., Fort Collins, Colorado, professor of chemistry and geology in State Agricultural College.

Harwood Redington Pool, B. Ph., L. L. B., 122 Euclid avenue, Cleveland, O., attorney-at-law.

Kenneth Dodge Wood, B. A., 803 Franklin avenue, Columbus, O., secretary of the Central Ohio Paper Company.

1882.

William W. Donham, B. Sc., Forgey, O., superintendent of schools.

Oliver Lanard Fassig, B. Sc., U. S. Weather Bureau, Washington, D. C., librarian.

Frederick Willis Fay, B. A., B. Arch., died August, 1892.

Sioux Glover, B. Sc., Mrs. Horton, Errid, Pa.

Frederic Keffer, M. E., chemist of Sodium Works, Johnstown, Wyo.

Irvin Linson, B. A., Los Angels, Cal., teacher.

John Andrew McDowell, B. Sc., 919 Neil avenue, Columbus, O., secretary and treasurer of the Pleukharp Barrel Machine Company.

Cora Warner, B. Ph., corner Hubbard street and Dension avenue, Columbus, O.

Horace LaFayette Wilgus, B. Sc., M. Sc., 81 W. Frambes avenue, Columbus, O., attorney-at-law, instructor in elementary law, and secretary of the Faculty of School of Law, Ohio State University.

1883.

Fremont Ackerman, C. E., Los Angeles, Cal., civil engineer.

Joseph Nelson Bradford, M. E., 54 West Tenth avenue, Columbus, O., assistant professor of drawing, Ohio State University.

John J. Dun, E. M., Forsyth street, Columbus, O., county surveyor.

John Howard Galbraith, B. Ph., Columbus, O., journalist.

Charles E. Higbee, B. Sc., Patton, N. Mex., teacher.

A. B. Howard, B. Ph., Deer Lodge, Montana, clergyman.

George W. Knopf, B. Sc., Pittsburgh, Pa., bridge builder.

Charles Frederick Marvin, M. E., U. S. Weather Bureau, Washington, D. C.

Charles C. Miller, B. A., Hamilton, O., superintendent public schools.

Frederick W. Sperr, E. M., 1461 Worthington St., Columbus, O., assistant professor of mining engineering, Ohio State University.

Edward M. VanHarlingen, B. Sc., Winnemucca, Neb., U. S. Signal Service.

1884.

Eli Osborn Ackerman, C. E., 2664 North High St., Columbus, O., farmer.

James T. An lerson, B. A., Governor's Island, N. Y., 1st lieutenant U. S. Army.

Helena W. Chamberlain, B. A., Mrs. Ellis Lovejoy, Union Furnace, O.

Clayton William DeLamater, A. B., LL. B., 1602 Farnam St., Omaha, Neb., attorney-at-law.

George William Dun, B. Sc., 1305 Forsyth St., Columbus, O., secretary of the Board of Police Commissioners.

Jesse R. Lovejoy, B. Sc., Lynn, Mass., with Thompson-Houston Electric Light Company.

Charles V. Meade, B. Ph., Denver, Colorado, attorney-at-law.

George L. Morton, M. E. LL. B., (Nat'l Law School), U. S. Patent office, Washington, D. C., first assistant examiner, Dep't Electricity.

Edward Orton, Jr., E. M., Columbus, O., chemist.

Annie Ware Sabine, A. B., A. M., 53 Trowbridge St., Cambridge, Mass., student.

Edwin E. Sparks, M. A., State College, Center county, Pa., principal preparatory department, Pennsylvania State College.

John Burkett Wikoff, B. Ph., Cambridge, O., assistant to general manager, Cleveland & Marietta Ry. Company.

1885.

William Preston Bentley, B. Agr., Nankin, China, care local post, Shanghai, missionary.

Charles C. Green, B. Sc., Beaver City, Neb., physician.

William Henry Harrison, C. E., Omaha, Neb., draughtsman for Union Pacific Railway Co.

Ellis Lovejoy, E. M., Union Furnace, O., chemist and superintendent of pressed brick works.

William Ruskin Malone, B. A., Salt Lake City, Utah, principal city high school.

Charles Allen Marple, B. Sc., Louisville, Ky., teacher of mathematics, male high school.

Melvin Noble Mix, B. Ph., 6940 Hamilton Ave., E. E., Pittsburgh, Pa., assistant editor of Pittsburgh Dispatch.

William Lincoln Peters, M. E., Riverside, Cal., manufacturer.

Chas. V. Pleukharp, M. E., Columbus, O., pastor South High St. M. E. church.

Willis J. Root, E. M., New Straitsville, O., superintendent of blast furnace.

Edward Louis Tascher Schaub, M. E., Indianapolis, Ind., road foreman of engines, P. C. & St. L. R. R.

Charles Felton Scott, B. A., Pittsburgh, Pa., assistant electrician, Westinghouse Electric and Manufacturing Co.

Mary Odella Scott, B. A., East Third Ave., Columbus, O., teacher in high school.

Philo Christopher Smith, B. Sc., Middle Branch, O., farmer.

Francis Asbury Taylor, B. A., died July 25, 1891.

George E. Twiss, B. Sc., Columbus, O., teacher in high school.

1886.

William A. Connell, E. M., Portsmouth, O., principal high school.

Edward Joseph Converse, B. A., 808 North High St., Columbus, O., att'y-at-law.

George S. Cunningham, B. Ph., LL. B., Lancaster, O., attorney-at-law.

William Stowe Devol, B. Agr., Pomona, Cal., student and newspaper correspondent.

John H. Erskine, E. M., Lowellsville, O.

Clara Fisher, B. A., Mrs. Rev. J. Porter Milligan, 36 West Tompkins St., Columbus, O.

Frank E. Hill, B. Sc., M. D., Norwood, O., physician.

A. A. Jones, C. E., Columbus, O., with Ohio Tool Co.

William White Keifer, B. A., LL. B., (Cincinnati), Springfield, O., attorney-at-law.

George Albert Masters, C. E., Smith Bridge Co., Toledo, O., contractor.

James Porter Milligan, B. A., 36 West Tompkins St., Columbus, O., pastor North Columbus Congregational church.

Wallace Clement Sabine, B. A., A. M., (Harvard), 53 Trowbridge St. Cambridge, Mass., instructor in physics, Harvard University.

Otto Schroll, C. E., Wheeling, W. Va., civil engineer.

Anna Neill Scott, B. A., 1274 Summit St., Columbus, O.

Horace Prescott Smith, B. Sc., Portsmouth, O., teacher of science in high school.

William P. Vandervoort, E. M., Morrow, O., principal of high school.

Willis B. Viets, E. M., 38 West Eighth Ave., Columbus, O., analytical chemist.

Sern P. Watt, M. E., Milwaukee, Wis., mechanical engineer.

1887.

William Filson Charters, B. Ph., Sidney, O., tax inquisitor.

Howard Pendleton Converse, B. Sc., Trenton, N. J., engineer.

Harry Corns, B. A., 22 W. Woodruff avenue, Columbus, O., principal Northwood school.

Fredericka Detmers, B. Sc., M. Sc., 35 King avenue, Columbus, O., graduate student, Ohio State University.

Vernon Judson Emery, B. A., M. A. (U. of Nebraska), 38 West Eighth avenue, Columbus, O., assistant in Latin, Ohio State University.

Mark Francis, D. V. M., College Station, Tex., veterinarian.

William Henry Hannum, B. A., Ratnagiri, Bombay Presidency, India, missionary.

Arthur T. Heath, G. Ph., Harbor, O., analytical chemist.

Robert Hazlett, Jr., C. E., Washington, D. C., civil engineer.

William Franklin Hunt, M. E., St. Paul, Minn., principal of the Barnard school.
 Wilby Grimes Hyde, B. A., L. L. B. (Cincinnati), rooms 3 and 4 Carlisle block, Chillicothe, O., attorney-at-law.

Charles Henry Krieger, G. Ph., 1016 Summit street, Columbus, O., superintendent of the Kauffman-Latimer Co.

William McPherson, B. Sc., M. Sc., 38 West Eighth avenue, Columbus, O., assistant in chemistry, Ohio State University.

Annie Mulla, B. Ph., 70 West Eighth avenue, Columbus, O., graduate student, Ohio State University.

Joseph Simmons Myers, B. A., Pittsburgh, Pa., editor Pittsburgh Post.

Uriah H. Myers, E. M.

Halbert Edwin Payne, M. E., Erie, Pa., manufacturer.

Frank A. Ray, E. M., Buchtel, O., chief engineer C. & H. Coal and Iron Co.

Archibald C. Reeves, C. E., Dayton, O., assistant city civil engineer.

Daisy Medill Scott, B. A., 1274 Summit street, Columbus, O., teacher in high school.

May Mernod Scott, B. A., 1274 Summit street, Columbus, O.

Joseph Russell Taylor, B. A., 72 West Third avenue, Columbus, O., assistant in drawing, Ohio State University.

George F. Weidner, G. Ph., Columbus, O., with Kauffman-Latimer Co.

Henry Julian Woodworth, B. Sc., Jobs, Hocking county, O., with the Morris Coal Co.

Oscar C. Zaumzeil, C. E., 126 Seeley avenue, Chicago, Ill., architect.

1888.

Chester H. Aldrich, B. A., L. L. B., David City, Neb., attorney-at-law.

G. Glenn Atkins, B. A., New Haven Conn., student in Yale divinity school.

Fred. S. Ball, B. Ph., Atlanta, Ga., stenographer.

Emma Boyd, B. Ph., Mt. Gilead, O., principal of high school.

Frederick W. Brown, E. M.

Marshall Fremont Capron, M. E., Kenton, O., architect.

Josephine M. Cathcart, B. Sc., 67 Fifteenth avenue, Columbus, O.

Frederick Julius Cellarius, C. E., room 3, city building, Dayton, O., assistant city civil engineer.

William Sterling Crawford, B. Ph., Missoula, Mont., correspondent of the Anaconda Standard.

George B. Fravel, M. E., Indianapolis, Ind., assistant master mechanic Pan Handle shops.

Arthur Hartwell, M. E., Pittsburgh, Pa., electrical engineer with Westinghouse Electrical and Manufacturing Co.

Harry Hedges, B. A., Grand Forks, N. Dakota.

Lucius A. Hine, E. M., Sandusky, O.

Edward A. Kemmler, C. E., 895 S. High street, Columbus, O., assistant in civil engineering, Ohio State University.

Benjamin G. Lamme, M. E., Alleghany City, Pa., engineer with Westinghouse Electrical and Manufacturing Co.

Edgar W. Mix, B. Sc., Lynn, Mass., electrical engineer with Thompson-Houston Electric Co.

William T. Morrey, B. A., Hoboken, N. J., teacher in the Stevens school.

Frank M. Raymond, B. A., 215 W. Tenth Avenue, Columbus, O., attorney-at-law.

William O. Scheibell, E. M., engineer for the John A. Roeblings Sons Co., New York City.

Emma Scott, B. Sc., 46 York street, Cincinnati, O., medical student.

Charles C. Sharp, C. E., Buchtel, O., civil and mining engineer.

Wilbur H. Siebert, B. A., M. A. (Harvard Univ.), 299 S. Front street, Columbus, O., assistant in History, Ohio State University.

Howard N. Thompson, B. Ph., Washington, D. C., journalist.

F. L. Olcott Wadsworth, B. Sc., E. M., M. E., Worcester, Mass., assistant in physics, Clark University.

Scott Anderson Webb, B. Ph., 186 E. Gay street, Columbus, O., attorney-at-law.

Clark J. Welch, C. E., Indiana Bridge Co., Muncie Ind., bridge engineer.

James A. Wilgus, B. Ph., M. A.

1889

J. George Bloom, C. E., Petersburg, Va., assistant superintendent N. & W. Ry.

John A. Bownocker, B. Sc., Chicago, Ill., student in Chicago University.

Moses Craig, B. Sc., Cornwallis, Oregon, professor of Botany in the Agricultural College of Oregon.

Charles Ellis, D. V. M.

Julius Floto, E. M., P. O. Box 332, Cincinnati, O., sales agent.

Charles E. Gains, B. Ph., M. D., London, O., physician.

Alberta D. Garber, B. Ph., A. M., Cincinnati, O.

Frank B. Gregg, B. Ph., Miami Medical College, Cincinnati, O., medical student.

Theodore L. Griffin, B. Sc., M. Sc., Berlin, Germany, student in chemistry.

Howard Hagler, B. Sc., Washington C. H., O., farmer.

Harry R. Hall, E. M., Parryville, Pa., chemist to Carbon Iron & Pipe Co.

David R. Hancock, G. Ph., 109 Hamilton avenue, Columbus, O., medical student.

Henry Pomeroy Horton, B. Ph., Wapakoneta, O., teacher in high school.

Harry L. Kirker, B. Sc., 63 Liberty street, Allegheny City, Pa., with the Westinghouse Electrical and Manufacturing Co.

William W. Meek, B. Ph., 121 Fifteenth avenue, Columbus, O., with J. W. Meek & Co.

Charles W. Mesloh, B. A., 1348½ N. High street, Columbus, O., assistant in German, Ohio State University.

Harry Franklin Miller, M. E., Detroit, Mich., heating and ventilating engineer.

Henry S. Newton, B. Sc., 264 W. Fourth street, Cincinnati, Ohio, engineer for the Central Thompson-Houston Electric Co.

Albert N. Ozias, M. Sc., 485 King avenue, Columbus, O., teacher of chemistry and physics in high school.

Owen P. Patchell, B. Ph., Ardmore, Ind., attorney-at-law.

Alla B. Rickey, B. Ph., Mrs. Geo. H. Cless, 428 E. Gay street, Columbus, O.,

Charles Peter Sigerfoos, B. Sc., Baltimore, Md., student in Johns Hopkins University.

William Carl Wendt, G. Ph., 901 S. High street, Columbus, O., clerk in drug store.

1890.

William H. Armstrong, G. Ph., Marysville, O., druggist.

Charles L. Arnold, B. Sc., University Grounds, Columbus, O., assistant in mathematics, Ohio State University.

Ada Mable Basterdes, B. Ph., 39 S. Garfield avenue, Columbus, O.

Henry C. Bennett, B. A., 149 La Salle street, Chicago, Ill., attorney-at-law.

Samuel C. Bennett, D. V. M., Lexington, Ky., professor of veterinary medicine, Kentucky Agricultural College.

Harvey E. Brier, D. V. M., Tippecanoe City, O., veterinary surgeon.

Knott C. Egbert, B. Agr., Tiffin, O., farmer.

Russell Stimson Feicht, M. E., Pittsburgh, Pa., with Westinghouse Electrical and Manufacturing Co.

- Charles P. Fox, B. Agr., Columbia, Mo., assistant chemist, Agr. Exp. Station.
 George P. Grimsley, B. A., M. A., 409 W. Saratoga street, Baltimore, Md., student Johns Hopkins University.
 Albert Henry Heller, C. E., Massillon, O., bridge draughtsman.
 Jessie Lee Jones, B. A., 506 Washington street, Steubenville, O., chemist.
 Joseph H. Large, C. E., Pittsburgh, Pa., assistant inspector of bridges for the Pennsylvania Southwest system.
 Hugh Clarence Laughlin, B. A., North Loup, Neb., superintendent of schools.
 William F. Lavery, D. V. M.
 George F. Mason, G. Ph., Groveport, O., druggist.
 Ralph D. Mershon, M. E., Pittsburgh, Pa., with the Westinghouse Electrical and Manufacturing Co.
 Daniel Elmer Miller, G. Ph., Dayton, O., druggist.
 Alice Hynes Moodie, B. A., Mrs. Arthur Hartwell, Pittsburgh, Pa.
 Charles B. Morrey, B. A., 146 King avenue, Columbus, O., assistant in physiology, Ohio State University.
 Nana R. Needles, B. Ph., Charlotte, Mich., teacher in High School.
 Joseph C. Ritchey, B. Sc., Carrollton, Ill., principal of school.
 Bertha Scott, B. Ph., 1873 North High street, Columbus, O., president's clerk, Ohio State University.
 Charles E. Skinner, M. E., 3 Park Way, Alleghany City, Pa., with Westinghouse Electrical and Manufacturing Co.
 Carl Clyde Smith, B. Ph., Marietta, O., agent for publishing house.
 Ellen D. Talbot, B. A., Troy, O., teacher in high school.
 David S. White, D. V. M., 50 Lievensen strasse, Berlin, Germany, student.

1891.

- Margaret Alice Beach, B. Ph., Urbana, O., teacher in high school.
 Lloyd Morris Bloomfield, B. Agr., 136 Ninth Ave., Columbus, O., assistant in agricultural chemistry, Ohio State University.
 James Ellsworth Boyd, B. Sc., 152 W. Eight Ave., Columbus, O., assistant in physics, Ohio State University.
 James Ferguson Burns, C. E. Louisville, Ky., office of Maintenance Way, L. & N. R. R.
 George Nathan Cole, M. E., 1217 E. Rich St., Columbus, O., with Bradstreet's Commercial Agency.
 Henry Rollins Cummins, G. Ph., Urbana, O., druggist.
 Carl Gregg Doney, B. Sc., Columbus, O., student in Ohio State University Law School.
 Clair Albert Dye, G. Ph., 135 King Ave., Columbus, O., assistant in general chemistry, Ohio State University.
 Charles Todd Easterday, G. Ph., Shreve, O., druggist.
 Julius H. R. Paul Fischer, B. Agr., D. V. M., 528 E. Main St., Columbus, O., assistant in veterinary surgery, Ohio State University.
 Frank Walter Grandle, G. Ph., 207 E. Main St., Newark, O., druggist.
 Ralph Newton Hubbard, B. Sc., Baltimore, Md., student in Johns Hopkins University.
 Aaron Wesley Jones, B. Sc., 573 Keifer Ave., Columbus, O.
 Francis Stuart Kershaw, B. Ph., 23 College House, Cambridge, Mass., student in Harvard University.
 Frank Louis Kiesewetter, C. E., 55 Trowbridge St., Cambridge, Mass., student in Harvard University.
 Walter Alexander Landacre, G. Ph., Columbus, O., with Brown & Sous, druggists.
 Edwin Dunlevy Martin, B. Ph., Xenia, O., teacher.

George Elmer McCulloch, B. Sc., 230 Harmar St., Fort Wayne, Ind., newspaper reporter.

George Herbert Mock, B. Sc., 1248 S. High St., Columbus, O., electrical engineer.

Martha Allston Moses, B. Ph., W. First Ave., Columbus, O.

John Henry Niewvahner, B. A., Jackson, O., teacher in high school.

Sarah Eliza O'Kane, B. Ph., Mrs. F. M. Raymund, 215 W. Tenth Ave., Columbus, O.

Frank Etherington Pomerene, B. Ph., Coshocton, O., student of law.

Frank William Rane, B. Agr.

William Daniel Reese, B. A., Orchard Lake, Mich., instructor in Military Academy.

Emma Anna Ruppensburg, B. Sc., 842 S. High St., Columbus, O., graduate student in Ohio State University.

Edward Sigerloos, B. Ph., Fort Leavenworth, Kas., 2d. Lieutenant, 5th. Infantry, U. S. Army.

William Henry Spencer, G. Ph., East Liverpool, O., druggist.

Norman Wilson Storer, M. E., Pittsburg, Pa., with Westinghouse Electrical and Manufacturing Co.

Harvey Adam Surface, B. Sc., M. Sc., 1596½ N. High St., Columbus, O., assistant in geology, Ohio State University.

Mary Loretta Weaver, B. Ph., Fort Collins, Col.

Horace J. Whitacre, B. Sc., 453 W. 56th. St., New York, N. Y., student of medicine, Columbia College.

Francis Carter Wood, B. Sc., Englewood, N. J., student of medicine, Columbia College.

1892.

Louis Granville Addison, LL. B., Columbus, O., attorney-at-law.

Frederick Charles Alsdorf, E. M., Utica, O.

William Hollister Baker, B. Agr., Utica, O.

Wesley C. Bates, LL. B., Carroll, O.

Ernst Bradford, G. Ph., Columbus, O., graduate student, Ohio State University.

Charlotte Lake Claypoole, B. Ph., Columbus, O., graduate student, Ohio State University.

Charles Melville Crooks, B. A., Pomeroy, O., principal of high school.

Henry G. Daily, D. V. M., Emerson, O.

Jerry Dennis, LL. B., Five Points, O.

Irvine Laird Dungan, B. Ph., graduate student, Ohio State University.

Ernst Evans, B. Sc., 111 S. High St., Steubenville, O., chemist.

William Lloyd Evans, B. Sc., Zanesville, O., chemist in Zanesville Encaustic Tile Works.

Peter Platter Evans, C. E., Coshocton, O., draughtsman with T. & W. V. & A. Ry.

John Franklin Fergus, LL. B., Columbus, O., attorney-at-law.

Harry Franklin Flynn, C. E. Washington, D. C., Computer, U. S. Geodetic Coast Survey.

Loving Hapgood Goddard, C. E., Springfield, O., civil engineer.

Ralph Spencer Goodell, C. E., Columbus, O.

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